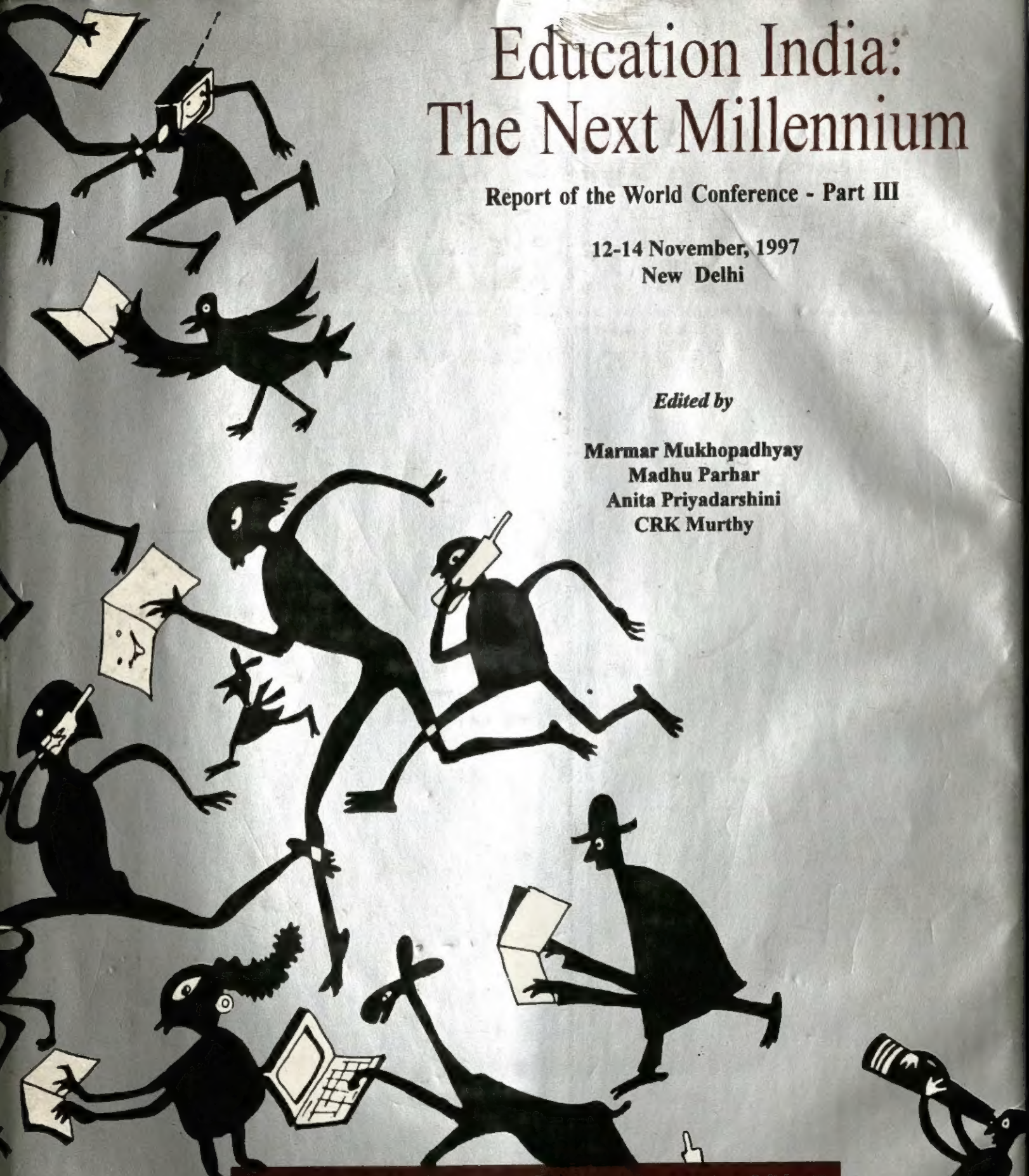
Education India: The Next Millennium

Report of the World Conference - Part III

12-14 November, 1997
New Delhi



Edited by

Marmar Mukhopadhyay
Madhu Parhar
Anita Priyadarshini
CRK Murthy

Institute of Education, Rural Studies and Development
Udang : Howrah

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Composing and
Page Making: All India Association for Educational Technology

Introduction

The Conference proceedings and reports are in three volumes. Volume one contains the report of the major plenary sessions including the addresses by the Prime Minister, Minister of Human Resource Development and Finance Minister. Volume two, Souvenir, contains the abstracts of all the papers presented. This was published before the conference. The present volume contains full text papers presented in various plenary and concurrent sessions.

We received more than 140 papers. We were at a dilemma on some of the papers, to choose or not to choose. While some papers are excellent, even those which may not have stood the intellectual scrutiny had something to say which is educative for others. There were papers from internationally reputed experts who were born with the language of the Conference, there were others who had genuine difficulty in expressing in the official language of the Conference. We have tried to be flexible to accommodate such papers where language and expressions were not at their best. But we have ensured that they convey what they intended to. There are variations in the referencing styles. We have refrained from serious editing. One and the major reason is that this volume, the Conference proceedings is meant for very restricted circulation, only for those who have an articulated need for the 'untampered original'.

We went through each and every paper. The task has been difficult and laborious. But this was an enriching experience. We have enjoyed it. We hope you will also find it useful and enjoyable.

March 23, 1998
New Delhi

Editors

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We gratefully acknowledge the contribution of various institutions, organizations and individuals for the success of the Conference and in bringing out this summary report. We particularly, wish to put on record the co-operation and support of the following.

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- Sri Soumendra Nath Panja and Sri Sudhir Dagar for processing this volume
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* Keynote Paper

Universal Elementary Education in Mizoram
A Developmental Perspective

Benudhar Chinara[1]

Introduction

India with its democratic, socialistic and secular pattern of society has committed herself to provide basic education for masses, i.e. all children upto the age of 14 years. It is evident from the Directive Principle of State Policy enshrined in Article 45 of the Constitution (Government of India [GOI], 1991 : 14) : "The State shall endeavor to provide, within a period of ten years from the commencement of this Constitution, for free and compulsory education for all children until they complete the age of fourteen years." In the observation of the Education Commission (EC) 1964-66 (National Council of Educational Research and Training [NCERT], 1971:267) "... the provision of free and universal education for every child is an educational objective of highest priority, not only on the grounds of social justice and democracy, but also for raising the competence of the average worker and for increasing the national productivity." The National Policy on Education (NPE) 1986 (GOI, 1986:3) reiterated the same : "In our national perception education is essentially for all." India subscribed to the 'Universal Declaration of Human Rights' which declares that all individuals irrespective of sex, caste and economic status have Rights to Education. It reveals her commitment to and transparency on the issue of mass-education. But she waits for a right situation to legalize it as per the recommendation of both Committee for Review of National Policy on Education (NPERC) (1990:134) and CABE Committee on Policy (GOI, 1992a . 25) which commits to take all the necessary socio-economic-political measures for including *Rights to Education* amongst the *Fundamental Rights* guaranteed under the Constitution. The growing concerns about the education for all is further reflected with the inclusion of universalization of primary education among the seven *Basic Minimum Services* by the Conference of the Chief Ministers of all the States in the country during 4-5 July of 1996 (Government of Mizoram [GOM], 1997:3).

With the attainment of independence, Directive Principle regarding Universalization of Elementary Education (UEE) is incorporated in the Constitution. The programme of achieving UEE by 1960 was initially confined to the extension of school facilities. After one and a half decade, the EC 1964-66 extended it to 'the provision of universal school facilities, universal enrollment and universal retention (NCERT, 1971 : 269-273) for providing 'free and compulsory education of good quality' (NCERT, 1971 : 165). The NPE 1986 emphasized the same (GOI, 1986 : 11) and went a step further by providing Minimum Levels of Learning (MLL) to improve the quality of education in the elementary school (GOI, 1986 : 4). Thus UEE became output-oriented. In pursuance of this policy, NPERC (1990) constructively strengthened the UEE's input-oriented, narrow and unitary programme into an input-output-oriented, comprehensive and composite one with the inclusion of universal access, universal participation and universal achievement. Reviewing both NPE 1986 (GOI, 1986) and NPERC (1990), CABE Committee on Policy (GOI, 1992a : 27) recommended that " UEE has... to be viewed as a composite programme comprising (i) access to education for all children upto 14 years of age, (ii) universal participation till they complete elementary education through formal or non-formal education programmes, and (iii) universal achievement of minimum levels of learning (MLL)." The evidences show that the educational policy documents give unqualified priority to UEE. In addition, the policy frameworks enunciate the prioritisation of highest order for disadvantaged groups . girls, Scheduled Castes (SCs), Scheduled Tribes (STs) and physically handicapped. The entire phenomenal development of UEE is reiterated by Education For All (GOI, 1993).

The literature reveals that from 1950 till the early nineties, the target of achieving UEP by the year 1960, 1985-86, 1995 and 2000 has respectively been fixed by the Constitution of India (GOI, 1991 :

[1] Department of Education, North-Eastern Hill University, Mizoram Campus, Aizwal.

40), EC 1964-66 (NCERT, 1971 : 165), NPE 1986 (GOI, 1986 : 12) and NPERC (1990 : 154). Even both EC 1964-66 and NPE 1986 have gone to the extent of programming UEE in phased manner : universal primary education in the first phase and universal upper primary (UP) education in the second phase. Despite all, UEE is not yet fulfilled. Commenting upon I, NPERC (1990 : 134) viewed that the continued failure of achieving UEE is a *teasing reality* and remains as *the most fundamental problem of our educational system*. Against this backdrop, the paper synoptically depicts and critically analyses the development, and emphatically concludes the contextuality of UEE in Mizoram.

Four years of primary and 3 years of middle school constitute State's elementary education system. But the author deals with the UEE's developmental perspective keeping in view the elementary structure -- 5 years of primary (Classes I - V) and 3 years of upper primary (Classes VI - VIII) education -- in conformity with the provision of free and compulsory education for children in 6-14 year age-group as enshrined in the Constitution (GOI, 1991 : 14) and the national system of education as envisaged by NPE 1986 (GOI, 1986 : 4).

II

Developmental Scenario of UEE

The section - II deals with the UEE's development in Mizoram as reflected through some basic indicators such as school facilities, students' enrolment, their participation and achievement.

School Facilities

Expansion of educational institutions at the elementary stage, ratio between primary and UP schools, undertaking the assignment of teaching job by the local tribal youth, perticipation of females in teaching task, number of students per teacher and operation blackboard (OB) constitute school facilities.

The educational institutions at the elementary level have markedly increased in number. Compared to 1973 (Table 1), the number of primary and upper primary (UP) schools grew by 265% and 333% respectively in the year 1996. At present, "almost all villages are covered by primary-middle schools" (Anonymous, 1997:3) The faster rate of expansion of UP schools compared to primary schools reduced the ratio between them from 2.2 : 1 in 1973 to 1.8 : 1 in 1996 (Table 1). It indicates that ratio of 2:1 envisaged by CABE (GOI, 1992a . 33) and Programme of Action (GOI 1992b : 38) was almost achieved in the year 1973.

Table-1 : Relative Growth (RG) Of Schools And Ratio Of Primary Schools(PS) To Upper Primary Schools(UP) (1973-1996)

SCHOOL→ YEAR	RG of PS	RG of UP	Ratio of PS to UP
1973***	100	100	2.2:1
1978**	108	116	2.1:1
1983*	185	180	2.3:1
1988*	221	236	2.1:1
1993*	227	289	1.8:1
1996*	265	333	1.8:1

Sources : *** Third All India Educational Survey, New Delhi : NCERT, 1979.
** Fourth All India Educational Survey, New Delhi : NCERT, 1982.
* Office Record of School Statistics. Aizwal : Department of School Education, Govt. of Mizoram.

The teaching responsibility in the schools is mostly being taken up by the youth from the local tribal community. Their percentage (Table 2) is raised from 96% in 1973 to 98% in 1996 at the primary and 94% to 98% at the UP education stage.The participation of females in the teaching task is as old as the origin of Mizo as a language in 1894. The percentage of Mizo female teachers to the total local teachers with 12% in 1903 (GOM, 1991 : 20) is enhanced to 27% and 47% of the total number of teachers in 1973 and 1996 respectively (Table 3) at the primary education level. Their participation marginally went up by 4% from 1973 to 1996 in UP schools. With the employment of more teachers, the number of students per teacher is decreased from 36 in 1973 to 26 in 1996 at the primary and 20 to 10 at the UP education levels (Table 4). It shows not only a declining but also a comfortable maintenance of suitable student-teacher ratio over the years.

Table-2 : Percentage Of Teachers By Community (1973-1996) ●

School→ Year	Primary			Upper primary		
	SCs	STs	Others	SCs	STs	Others
1973***	-	95.5	-	-	93.7	-
1978**	00.1	99.1	00.8	00.1	95.7	04.2
1983*	-	99.4	00.6	-	98.9	01.1
1987*	-	98.1	01.9	-	97.9	02.1
1993*	-	99.6	00.4	-	-	-
1996*	00.1	97.9	02.0	00.1	98.3	01.6

Table-3 : Percentage Of Teachers By Sex (1973-1996) ●

School→ Year	Primary		Upper Primary	
	Males	Females	Males	Females
1973***	72.5	27.5	82 3	17.7
1978**	69.4	30 6	82.0	18.0
1983*	57 3	42 7	82 0	18.0
1988*	53.7	46 3	73.4	26.6
1993*	52 9	47.1	78.5	21 5
1996*	53.4	46.6	78.2	21 8

●Sources : *** Educational Administration in Mizoram. New Delhi . Vikas Pblishing House Pvt. Ltd., 1995.
** Fourth All India Educational Survey, New Delhi : NCERT, 1982.
* Office Record of School Statistics. Aizawl : Department of School Education, Govt. of Mizoram.

Table-4 : Student Teacher Ratio (Student per one Teacher) (1973 - 1996)

Class→ Year	I - V	VI - VIII
1973***	36	20
1978**	35	15
1987*	26	11
1993*	30	11
1996*	26	10

Sources : ** Third All India Educational Survey, New Delhi : NCERT, 1979.
** Educational Administration in Mizoram, New Delhi : Vikas Publishing House Pvt. Ltd., 1995.
* Office Record of School Statistics, Aizawl : Department of School Education, Govt. of Mizoram.

Out of the various incentive schemes supply of free text books to the poor students at the primary and UP education levels, and mid-day meals to the primary school students are in operation. There is no any such special provision of incentives for education of girls. It is possibly due to the fact that girls are being treated equally with their boy counterparts in education as they were equal partners in jhumming (shifting cultivation) in the past (GOM, 1991 : 23).

The centrally sponsored scheme of OB is implemented since 1987-88. Accordingly in both Aizawl and Lunglei districts, except Chhimtupui, 98.5% and 1.5% of primary schools respectively have partly pucca (Assam type) and pucca building with at least two reasonable large all-weather rooms. Nearly 66% of these schools are provided with essential teaching-learning material. Almost all schools have the status of not less than two-teacher school. Under the revised OB in Eighth Five Year Plan, 107 eligible two-teacher schools have already been sanctioned with the required additional third-teacher posts and about 10% of UP schools have already been provided with essential teaching-learning material. It indicates that OB has increasingly expanded the facilities for the primary education and slowly stepped in at the UP education level.

The institutional expansion and extension of facilities at elementary level seem to be progressively quite satisfactory. The developmental perspective of school facilities suggests that active participation of tribal youth and females in teaching, and maintenance of a consistent and comfortable

student-teacher- and primary-middle-school-ratio are meticulously thought and indigenously designed relatively from a long-past.

Enrollment

The relative enrolment growth of students with respect to 1973 (Table 5) shows a phenomenal rise with 210%, 233% and 215% in 1996 at the primary, UP and elementary education levels. This growth rate at the UP level was comparatively low during 1978 but increased in a marked manner in the years 1988, 1993 and 1996 compared to the growth rate at the primary and elementary levels. It was observed that 77.45% of children in the age group of 6-14 were in formal elementary stream as on 1 10. 1995 (Anonymous, 1997 ; 3).

Table-5 : Relative Enrollment Growth (1973-1996)●

Class → Year	I - V	VI - VIII	I - VIII
1973 ***	100	100	100
1978 **	115	111	114
1983 *	131	133	131
1988 *	185	195	188
1993 *	195	210	198
1996 *	210	233	215

Classwise girls enrolment (Table 6) shows almost decreasing trend from each lower class to the next higher class between class I to VIII in the years 1973, 1978 and 1988. But the corresponding figures indicates relatively increasing trend in 1988, 1993 and 1996. It reveals that girls are being progressively enroled from the lower class to its next higher class during the last decade.

Stagewise students enrolment (Table 7) indicates that percentage of boys and girls remained almost the same from 1973 to 1996 with their respective figures of about 52% and 47% at both primary and elementary school levels. But during the corresponding period the boys' enrollment decreased from 55% to 50% and the girls' enrollment increased from 44% to 49% at the UP education level. The figures tend to suggest that the enrollment of boys and girls at primary, UP and elementary levels is almost in same proportion to the male and female share in the population (921 females per 1000 males in 1991 census).

Table-6 : Class-wise Percentage of Girls' Enrollment to Total Enrollment (1973-1996)●

Class → Year	I	II	III	IV	V	VI	VII	VIII
1973 ***	48 0	48 5	47.8	47 7	47 1	46.0	43.9	43.8
1978 **	48.9	48 7	47 7	48.1	45.7	46.7	45.7	45.3
1983 *	48 3	48 8	47 5	48 8	46.3	46 0	47.2	44.8
1988 *	46 9	47 9	47.6	48 0	48.0	48 5	49.3	49.5
1993 *	47 2	47.7	47.6	48.7	46.0	46.4	46.9	49.7
1996 *	47.1	47.1	46.9	46.4	48.7	48.9	49.6	49.4

●Sources *** Third All India Educational Survey, New Delhi : NCERT, 1979.
** Fourth All India Educational Survey, New Delhi NCERT, 1982.
* Office Record of School Statistics, Aizwal : Department of School Education, Govt. of Mizoram.

Table-7 : Stage-wise Enrollment Rates By Sex (1973-1996)

Class → Year	I - V		VI - VIII		I - VIII	
	Boys	Girls	Boys	Girls	Boys	Girls
1973 ***	52 1	47 9	55.2	44 8	52.8	47.2
1978 **	51 9	48.1	54.0	46.0	52.4	47.6
1983 *	52 0	48 0	53.9	46.1	52.5	47.5
1988 *	52.4	47.6	50.9	49.1	52.1	47.9
1993 *	52.6	47.4	52.5	47.5	52.6	47.4
1996 *	52 8	47.2	50.7	49.3	52.1	47.9

Sources : *** Third All India Educational Survey, New Delhi : NCERT, 1979.
** Fourth All India Educational Survey, New Delhi : NCERT, 1982.
* Office Record of School Statistics, Aizwal : Department of School Education, Govt. of Mizoram.

The achievement scenario of enrolment tends to indicate that girls' enrolment is remarkable with no evidence of discrimination, against them. However, the total enrolment of students is not as distinguished as the existing position of school facilities.

Participation

Dropout rate is one of the measures for indicating the level of students' participation in education. The classwise dropout rates (Table 8) show that high percentage of

Table-8 : Class-wise Dropout Rates (1987-1996)

Class→ Year	I - II	II - III	III - IV	IV - V	V - VI	VI - VII	VII - VIII
1987	40.4	06.3	15.2	*	08.8	03.8	29.7
1988	39.8	*	10.5	00.1	11.3	10.0	*
1989	43.5	06.0	14.1	*	07.0	07.5	20.2
1990	47.2	09 4	15.5	*	11.0	07.5	11.6
1991	56.2	11.9	11.9	05.4	14.0	14.4	17.3
1992	49.6	03.6	09.2	09.5	13 3	09.5	08.1
1993	51.9	04.6	13.0	*	05.6	02.6	08.6
1994	49.0	*	11.4	*	09.5	*	18.3
1995	45.2	*	11 3	*	11.8	03.9	24.9
1996	43.4	00.5	11.9	02.7	08.4	*	12.6

Notes : Dropout rate is calculated as follows :

- Dropout rate from class I to II for the year 1987 =

$$\frac{\text{(No. of students enroled in class I in 1986) - (No. of students enroled in class II in 1987)}}{\text{(No. of student enroled in class I in 1986)}} \times 100$$

- Dropout rate from class II to III for the year 1987 =

$$\frac{\text{(No. of students enroled in class II in 1986) - (No. of students enroled in class III in 1987)}}{\text{(No. of student enroled in class II in 1986)}} \times 100$$

- The above stated procedures were followed to calculate dropout rate for other classes in 1987 and for classes II to VIII from 1988 to 1996.
- The calculated dropout rate does not take into account both repeaters and students who enter the system after class I.
- Enrollment in the particular class higher than the enrollment in the previous class of the previous year.

Source : Office Record of School Statistics. Aizawl : Department of School Education, Government of Mizoram.

Sudents drops out consistently only from class I to II over the last decade with 40% in 1987 and 43% in 1996. During this period, the dropout rate from class I to V and VII to VIII depicts two different trends. The number of students enrolled in class V, beginning of UP where fresh enrolments are made, is marginally more compared to the students enrolled in class IV in the previous year. It shows the enthusiasm of students for middle school education. On the contrary, appreciable dropout rates from class VII to VIII beginning class at secondary level, reveal the lack of their curiosity for secondary education.

It may be observed that (Table 9) set of all the students enrolled in class I nearly 58% and 68% dropped out before they enter into class V and VIII in 1996 But the rates reduce significantly to 13% and 39% (Table 10) between classes II to V and II to VIII It clearly shows that exceptionally high dropout rate from class I to II (Table 8) contributed to significant high dropout rates at both primary and elementary education levels.

Table-9 : Stage-wise Dropout Rates By Sex (1990-1996)

Classes→ Year	I-V			VI-VIII			I-VIII		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
1990	49.7	47 0	48 4	21 4	14 8	18 2	56 5	52 3	54 5
1992	58 2	60.3	59 2	23 7	18 7	21 3	66 4	62 0	64 4
1994	62.8	63.0	62.9	24 5	15 6	20 4	69 5	68 0	68 8
1996	59 1	56.9	58 1	18 8	12 9	16 0	69 2	66 2	67.8

Notes : Dropout rate is calculated as follows :

- Dropout rate from class I to V for the year 1990 =

$$\frac{\text{(No. of students enroled in class I in 1986) - (No of students enroled in class V in 1990)}}{\text{(No. of student enroled in class I in 1986)}} \times 100$$

- Dropout rate from class VI to VIII for the year 1990 =

$$\frac{\text{(No. of students enroled in class VI in 1988) - (No of students enroled in class VIII in 1990)}}{\text{(No. of student enrolled in class VI in 1988)}} \times 100$$

- Dropout rate from class I to VIII for the year 1990 =

$$\frac{\text{(No. of students enroled in class I in 1983) - (No. of students enroled in class VIII in 1990)}}{\text{(No. of student enroled in class I in 1983)}} \times 100$$

- The above stated procedures were followed to calculate dropout rate for boys, girls and total number of students for the years 1990, 1992, 1994 and 1996 for Classes I-V, VI-VIII and I-VIII.
- The calculated dropout rate does not take into consideration both repeaters and students who enter the system after class I.

Source : Office Record of School Statistics. Aizawl : Department of School Education, Govt. of Mizoram.

With regard to boys and girls (Table 9) the respective dropout rates between classes I to V and I to VIII were 59% and 57%, and 69% and 66% in 1996. But the rates decrease substantially with 14% and 11% between classes II to V, and 42% and 35% between classes II to VIII (Table 10). Wide dropout rates among boys and girls at both primary and elementary education stages could be attributed to significant percentage of dropouts from class I to II (Table 8). A close examination, however, indicates that dropout rates for girls were marginally lower than their boy counterparts at both stages suggesting thereby absence of any kind of social prejudice that obstructs their participation.

Table-10 : Dropout Rates by Class & Sex (1990 - 1996)

Class → Year	II - V			II - VIII		
	Boys	Girls	Total	Boys	Girls	Total
1990	13 8	12.7	13.5	40.4	33.7	37.2
1992	26 2	29.6	27 8	43.8	35.5	39 9
1994	16 2	14.1	15.2	49.1	47 1	48.2
1996	14.5	11.1	12.9	42.3	35.1	39.0

Notes : Dropout rate is calculated as follows :

- Dropout rate from class II to V for the year 1990 =

$$\frac{\text{(No. of students enroled in class II in 1988) - (No. of students enrolled in class V in 1990)}}{\text{(No. of student enrolled in class II in 1988)}} \times 100$$

$$\frac{\text{(No. of students enroled in class II in 1984) - (No. of students enroled in class VIII in 1990)}}{\text{(No. of student enrolled in class II in 1984)}} \times 100$$

- Dropout rate from class II to VIII for the year 1990 =

- The above stated procedures were followed to calculate dropout rate for boys, girls and total number of students for the years 1990, 1992, 1994 and 1996 for classes II-V and II-VIII.
- The calculated dropout rate does not take into consideration both repeaters and students who enter the system after class II.

Source : Office Record of School Statistics. Aizawl : Department of School Education, Govt. of Mizoram.

The overall picture of dropout rates from class I to II, and between classes I to V and I to VIII is exceptionally high compared to the existing school facilities, and the rate of enrolment.

Achievement

MLL, the strategy for determining universal achievement, has been laid down only at primary stage (NCERT, 1991). SCERT has already translated the report in Mizo language. Efforts are on for developing curriculum at the earliest in accordance with it. Once the curriculum is developed, it will be initially tried out in nearly 20 to 30 selected schools. On the basis of outcomes, it will be suitably adopted and then prescribed for both primary schools and non-formal education centres in the State. It is thus apparently clear that the strategy of MLL for universal achievement is in its inception stage.

The attainment of nearly universal enrollment (i.e. enrollment of three-fourth of the children in the 6-14 year age-group) is not so distinguished as the existing school facilities. It is also not that remarkable like the general consciousness of people for education as revealed through the total literacy of 89.94% in 1995 (Anonymous, 1997:3). Its position remains the same before the female literacy, i.e. 78.60% (GOI, 1996 : 6) with its relative growth (with respect to 1961) of 183% in 1991 (Chinara, 1993 : 18-91). In addition, the noticeable development of enrolment by itself is of little value with unexpected percentage of dropouts from class I to II, and appalling dropout rates between classes I and V, I and VIII and II-VIII. The rate of dropout is distressing in comparison to literacy. In the State, for instance, where the literacy was 82.27% in 1991 (GOI, 1996 : 6), 57% of students enroled in class I in 1991 dropped out by the time, i.e. 1995 they reach class V. The obtained trend of high percentage of literacy with the high

dropout rate goes in the reverse direction of what Mohapatra (Cited in Mitra, 1990 : 39) observed for many Indian states. The MLL is yet to be adopted for setting the target of attaining universal achievement.

III

UEE's Contextuality

The entire developmental scenario tends to suggest that Mizoram is not near the goal of achieving UEE in its entirety. Out of all the components of UEE, baring universal achievement through MLL which is at its inception stage, students' participation is low with very high rate of dropout. It amounts a serious loss of investment in elementary education, and questions the very existent overwhelming consciousness of people for education Maximum effort therefore needs to be made in respect to universal participation, much care needs to be taken for deficiencies of the enrolment data, if any, and universal enrolment, and a new beginning requires to be made by showing insight into the MLL. Accordingly, attempt is made to suggest certain strategic activities for achieving both underdeveloped and developing aspects of UEE, i.e. universal participation and universal achievement The approach must be basically 'family-wise child-wise design of action" involving practically a revenue village or a habitation for undertaking the activities.

Strategic Activities for Universal Participation :

In addition to the socio-economic constraints (Anonymous, 1997 : 4), exceptionally high percentage of dropouts from class I to II significantly contributes to the overall high rate of dropouts. The effect of deficiencies of the enrolment data found against some States (GOI, 1992a : 26), however, cannot be ruled out in case of Mizoram.

In order to deal effectively the problems of UEE in general and dropouts in particular the following strategies (Anonymous, 1997 : 3-4) have been undertaken by the state government :

- Providing facilities by opening new schools in the remote and far-flung areas.
- Making provisions of supply of free text books at the elementary education level.
- Involving voluntary organisations like YMA (Young Mizo Association) and Mizo Hmeichhe Insuihkhawm Pawl (Mizo Women Organisation) for helping poor dropouts to attend school again.
- Functioning of a state-wise literacy campaign 'Zirna Uar Kum' (Education Year) by a state level coordination committee on education involving both government and YMA to motivate the parents and children towards elementary education and literacy.

Supporting the above stated strategies, it is glowingly, realized to suggest the following:

- Opening of preschools or any other educational centres preferably in rural areas to take care of under-age children interested for early schooling. It will strengthen primary education with children of homogeneous age, reduction of repeaters, and better retention.
- Encouraging the parents to send their young kids regularly to those schools and centres.
- Guiding the parents for not seeking admission of their under-age children in class I.
- Instructing the teachers for strictly adhering to the principle of admitting the students within prescribed age-limit into the class I.
- Awakening the literate parents to participate effectively for total achievement of UEE through post literacy activities.
- Assigning responsibility to the headmaster for finding out the reasons of those students who dropout before entering into class II. Some incentive should be given in recognition of this task.
- Developing social responsiveness among teachers in order to enable the parents understand the importance of basic education, to observe and record systematically the reasons for repetition and discontinuation of education among students.

Strategic Activities for Universal Achievement

The MLL, i.e. expected learning competencies needs to be relevant and functional at the state level. The following activities should be carried out to ensure it :

- Determining the time-frame (whether 4 or 5 years of primary education and of nor-formal education (NFE) within which the MLL requires to be achieved.
- Assessing the existing levels of students learning achievement at the primary education and NFE levels.
- Reviewing existing textbooks of Classes I-V used for both primary schools and NFE centres keeping in view the MLL.
- Developing the curriculum in accordance with defined and accepted MLL.
- Selecting the primary schools and NFE centres which ideally represent the entire student population in Mizoram for putting the curriculum on test.
- Providing the required inputs like teaching-learning material in the selected schools and centres.
- Reorienting teachers and instructors of those selected schools and centres into the new curriculum, teaching learning strategies, procedure of assessing the pupils' level of learning competencies.
- Assessing the level of students' achievement and modifying the curriculum in concordance with it.
- Prescribing the modified curriculum for all the schools with required teaching-learning material and necessary reorientation of all the teachers into the new system.

It is observed that during the last five decades UEE has been extended from mere 'provision of school facilities' through 'universal education facilities, enrolment, and retention' to 'universal access, participation and achievement' Efforts have already been made to attain universal achievement through MLL in language, mathematics and environmental studies at the national level. In addition, it has become inevitable to determine MLL in computer education. It has become a necessity not only for its status as a vocational subject but also for accelerating the pace of national development, reducing the gulf between India and developed countries, and preventing the slowly emerging gulf between computer literate and computer illiterates. For the first quarter of coming twenty-first century, elementary education will be incomplete without the inclusion of the basic of computer education, i.e. computer literacy.

While the state is putting its efforts for achieving total literacy, students are not even adequately exposed to the basic of computer education. The initiative in this direction, of course, has started with the introduction of centrally sponsored schemes of "Computer Literacy And Studies in Schools" (CLASS) in 17 secondary schools and NEC's (North-Eastern Council) Computer Education Programme at the School Level of North-Eastern States" for classes VI to X in 4 schools during 1995-97. The programme of computer education needs to be strengthened with the stress on the following :

- Inclusion of computer courses in the curriculum, of both UP and primary schools.
- Provision of training to at least one teacher in a primary school and UP school, and two teachers in a comprehensive school (i.e. elementary school is attached with a high school)
- Introduction of computer course (theory and practice) in the elementary teachers'training institutions.
- Continuity of NEC's programme till all the schools at the elementary level are provided with computer facilities.

Mizoram is predominately inhabited by ST's and Christians with their respective rate of 94.75% (GOI,1995a;448) and 85.73 (GOI , 1995b; xvii) to total population. There is thus no discrimination between castes and religions. Similar is the case with respect to sex Here the UEE operates not as a *normal activity* rather as an *equity package* . The society is not only sociologically homogeneous and religiously identical but also linguistically uniform. It is more organised than disorganised. The sense of social responsibility is very strong among the Mizos. Against this background , the task of achieving UEE in its totality is not that difficult and challenging.

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Awareness Towards Population Problem - A Cross Religious Study

Saraswati Agrawal[1]

Introduction

It will not be an exaggeration to say that most of the challenges faced by India today are the outcome of population explosion in the country. No doubt, the vast expansion of population has adversely affected the development of our country. It is disheartening to mention that the annual rate of population growth in India being 2.14 is higher than China, the most populous country of the world. If present trend continues, India will soon take over China, as far as population of the country is concerned.

An overview of Indian scene of population reveals that the population of our country was 251.2 million in 1921 which has doubled in 1971 (547.9 million), thus it took 50 years for the first doubling with 1921 as the base year but it will hardly take 30 years for the second doubling assuming 1971 as the base year. According to 1991 census, population of India was 846.3 million which is expected to reach about one billion by the end of the century. India's share of world population has increased from 15.2% in 1981 to 16% in 1991. Every sixth person in the world is now an Indian.

Table 1 **Population Growth in India (1901-1991)**

Census Year	Population in Millions	Increase or decrease (in Millions)	Percentage Increase or Decrease
1891	236	-	-
1901	236	0.0	0.0
1911	252	+16	+5.7
1921	251	-1	-0.3
(1891-1921)		+15	+0.19
1931	279	+28	+11.0
1941	319	+40	+14.2
1951	361	+42	+13.3
(1931-1951)		+110	+1.22
1961	439	+78	+21.5
1971	548	+109	+24.8
1981	685	+137	+25.0
1991*	846	+161	+21.4

Source : Compiled from the data from Office of the Registrar General of India.

- Population Data Sheet, India, 1991 University News, Jan.3, pp.16-17.

Table 1 shows that there are clearly three distinct phases of growth of population in India. The first phase from 1891-1921, when the population grew from 236 million in 1891 to 251 million in 1921 (growth of 15 million). In the second phase from 1921-1951, the population grew from 251 million in 1921 to 361 million in 1951 (growth of 110 million) During the third phase i.e. 1951-1991, the population grew from 361 million in 1951 to 846 million in 1991. In the third phase there has been a record growth of population.

Over population outstrips the rate of economic growth by increasing demands for food, shelter, housing and employment opportunities. It leads to disruption in income distribution, adds to the number of unproductive consumers, increases tension, arouses unhealthy competition for limited opportunities.

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Peoples are forced to accept low paid jobs and the opportunity cost of labour steply goes down. The determintal effect of population growth on the average cost of production is that every increase in population results in a diminution in natural resources per capita. This has very well been emphasised by Thomas Robert Malthus in his 'Essay on the principle of population' (1798, rev 1803). Faster utilization of available natural resources than the regeneration or renewal results in deforestation, soil erosion, air and water population.

Table 2 **Birth and Death Rates in India**

Decade	Birth Rate	Death Rate
1891-1900	45.8	44.4
1901-1910	48.1	42.6
1911-1920	49.2	48.6
1921-1930	46.4	36.3
1931-1940	45.2	31.2
1941-1950	39.9	27.4
1951-1960	40.0	18.0
1961-1970	41.2	19.2
1971-1980	37.2	15.0
1981-1990*	29.3	9.8

Source : Census of India, 1971, Age and Life Tables and Census of India, 1981, Series 1, India, Paper 1 of 1984.

* Population Data Sheet, India, 1991, University News, Jan. pp.16-17.

Table 2 reveals the fact that the growth of population in India remained in check by higher birth and high death rate before 1921. The growth of population was negligible during this period. After 1921, there has been a noticeable fall in death rate which was 48 6 per thousand in 1911-20 came down to 19.2 during 1961-70 while the birth rate showed a slight decline. During 1981-90 birth rate declined and came down to 29 3 per thousand while death rate came down to 9.8. Decrease in the death rate in India, like other developing countries, has been achieved through application of modern medical and health facilities as well as improved means of transport and communication while high birth rate is due to lack of education, early marriage, universality of marriage, longer duration of fertile union, preference for son, low standard of living, lack of adequate population policy, lack of political will to solve the problem. But apart from these reasons religion, which an individual adopts, also affects population growth in the country. It is apparent that the socio-cultural background of Hindu, Muslim, Sikh and Christian communities is different and people desire to live within the framework of their age old traditions. They persistently adhere to these traditions and are bound to function in a unique traditional manner without any logic. Thus, the social customs and rituals prevalent in the communities affect population awareness of an individual.

K.R. Salkar (1974), Sumanjeet Kaur (1985), and N. Barapanda (1988) carried out their studies on population awareness but cross religious studies have not been taken up in this particular areas. Present study has been conducted to assess the population awareness among various religious communities. It is apprehended that the study will go a long way in solving the population problem by facilitating the formulation and execution of population policy of the government which will ensure brighter future for the nation.

Objectives of the Study

The present study was designed with the following objectives :

1. To assess and compare the population awareness among cross - religious groups of the society.
2. To find out the community with the highest awareness towards population problem.
3 To assess the community with the lowest awareness towards population problem.

4. To assess and compare the population awareness among various (religion x level of education) groups.
5. To assess the highest aware group (religion x level of education) as far as population problem of India is concerned.
6. To determine the lowest aware group (religion x level of education).
7. To find out the interaction between religion and level of education in the context of awareness towards population problem.
8. To assess the correlation between awareness towards population problem and level of education of an individual.

Hypotheses

1. There is no significant difference in the population awareness among cross-religious groups of the society.
2. There is no significant difference in the population awareness of Hindu and Muslim communities.
3. No significant difference exists in the population awareness of Hindu and Sikh communities.
4. There is no significant difference in the population awareness of Hindu and Christian communities.
5. No significant difference exists in the population awareness of Muslim and Sikh communities.
6. No significant difference exists in the population awareness of Muslim and Christian communities.
7. There is no significant difference in the population awareness of Sikh and Christian communities.
8. There is no significant difference in the population awareness of various groups (religion x level of education).
9. There is no significant difference in the Awareness of High and Low Educated groups.
10. There is no significant interaction between community and level of education as far as awareness towards population problem of India is concerned.
11. There is no significant correlation between awareness towards population problem and level of education of individuals.

Sample

A sample of 1000 individuals of various religious groups - (Hindu, Muslim, Sikh and Christian) was selected from Kanpur City. In the selection, level of education of an individual was considered because education is thought to be the best contraceptive which greatly affects one's awareness towards population problem. Higher educated individuals (formally educated above Intermediate level) were selected randomly from 7 colleges of Kanpur. Purposive selection was made of low educated individuals (formally educated upto Intermediate level). For avoiding the bias and making the sample more representative, groups were equated on the basis of their economic status.

Table 3 **Distribution of Community and Level of Education**

N = 100

Level of Education\ Coommunity	Hindu	Muslim	Sikh	Christian
Low Educated	92	55	50	50
High Educated	513	75	75	90

Tool for Data Collection

Self constructed Population Awareness Scale (PAS) was used for data collection.

Statistical Analysis and Interpretation of Data

Following statistical techniques have been used for analysis of the data -

(i) Mean
(ii) Standard Deviation
(iii) t-test
(iv) F-test (Analysis of variance)
(v) Co-efficient of correlation.

As there is a variation in the number of individuals in each group, adjusted Means have been calculated.

Table 4 **Mean Awareness Score of the Communities**

Communities	Hindu	Muslim	Sikh	Christian
Adjusted Means	18.04	17.57	18.25	18.37

Table - 4 shows that -

(i) With the Mean of 18.37, Christian community is most aware of the population problem.
(ii) Christian community is followed by Sikh and Hindu community with the Mean Awareness score of 18.25 and 18.04.
(iii) Muslim community, with the Mean Awareness score of 17.57 is least aware of the problem.

Table 5 **Comparison of the Communities**

Group	Mean	Group	Mean	Diffe-rence	SE	D.F.	t-value	Level of Signifance
1	18.0394	2	17.5672	.4722	.22	733	2.15	0.05
1	18.0394	3	18.2454	-.2060	.22	728	-0.93	N.S.
1	18.0394	4	18.3676	-.3283	.21	743	-1.55	N.S.
2	17.5672	3	18.2454	-.6782	.28	253	-2.43	0.05
2	17.5672	4	18.3676	-.8004	.27	268	-2.95	0.01
3	18.2454	4	18.3676	-.1223	.27	263	-.45	N.S.

Table 5 indicates that

(i) Mean awareness score of Muslim and Christian communities are 17.567 and 18.367 respectively. The difference between two Means is -0.80. Obtained value of t is 2.95 which, being greater than the table value of 2.58, is significant at 0.01 level. It can be concluded that Christian community is significantly more aware of population problem that the Muslim community.
(ii) Mean Awareness Scoe of Hindu and Muslim communities are 18.039 and 17.567 respectively. The difference between two means is 0.472. Obtained t-value is 2.15 which is larger than the table value of 1.96, hence the difference between two means is significant at 0.05 level. It is concluded that Hindu community is significantly more aware towards population problem than the Muslim community.

(iii) Mean Awareness Scores of Muslim and Sikh communities are 17.567 and 18.245 respectively. The difference between two means is 0.678. Obtained t-value is 2.43, which, being larger than the table value of 1.96, is significant at 0.05 level of significance. It can be concluded that Sikh community is significantly more aware than Muslim community as far as population problem of the country is concerned.

(iv) Mean awareness scores of (a) Hindu and Sikh communities are 18.039 and 18.245 respectively. Difference between two Means is -0.206 and t-value is 0.93 (b) Hindu and Christian communities are 18.039 and 18.367 respectively. Difference between two means is -0.328 and t-value is 1.55 (c) Sikh and Christian communities are 18.245 and 18.367 respectively. Difference between two means is -0.122 and t-value is 0.45.

Table value of 't' at 0.05 level being 1.96, obtained t-values of 0.93, 1.55 and 0.45, are not significant at 0.05 level of significance. Therefore, it is concluded that there is no significant difference in the population awareness of Hindu and Sikh, Hindu and Christian, Sikh and Christian communities.

Table 6 **Mean Awareness Score of the Groups**

Level of Education \Community	Hindu	Muslim	Sikh	Christian
Low Educated	17.17	17.11	17.64	18.04
High Educated	513	75	75	90

Table 6 indiciates that -

(i) in low educated group with mean score of 18.04, Christian community has the highest awarenss towards the problem. While Muslim community with 17.11 Mean Score, has the least Awareness followed by Hindu and Sikh community with the Mean Score of 17.17 and 17.64 respectively.

(ii) in higher educated group, with mean score of 18.85, Sikh community has the highest Awareness towards the problem. It is closely followed by Christian and Hindu communities with the mean Score of 18.82 and 18.70 respectively.

(iii) in high educated group, with Mean Score of 18.07 Muslim community has the lowest Awareness towards the problem.

(iv) in each of the community the high educated group has more Awareness than the low educated group as far as Awareness towards population problem is concerned.

Table 7 **Analysis of Variance**

Source	D.F.	S.S.	M.S.S.	F	Level of Significance
Between Groups	7	349.03125	49.861		
Within Groups	992	4907.37500	4.946	10.079	0.001
Total	999	5256.40625	5.261		

Table 7 shows that for 7 and 992 df, obtained value of F is 10 079 which is greater than the table value of 3.47 at 0.001 level, hence the obtained Mean difference between high and low educated groups of various communities is significant at 0.001 level and is not due to the chance.

Table 8 **Interaction between Community and Education**

Source	D.F.	A.D.J. S.S.	M.S.S.	F	Level of Significance
A	3	49.26645	16.422	3.31965	0.05
B	1	258.57895	258.578	52.27037	0.001
A x B	3	15.54605	5.182	1.04752	N.S.
Within Group	992	4907.37500	4.946		

A = Community B = Level of Education

Table 8 shows that

(i) for 3 and 992 df, obtained value of F is 3.319 which is greater than the table value of 2.61 at 0.05 level, hence Mean differences in the Awareness Score among the communities are significant at 0.05 level Mean differences reflect the effect of education on awareness towards population problem among the communities.

(ii) for 1 and 992 df, obtained value F is 52.27 which is greater than the table value of 10.83 at 0.001 level, hence the Mean difference of 1.23 between high educated group (M = 18.63) and low educated group (M = 17.40) is significant at 0.001 level of significance. It is concluded that high educated group is significantly more aware than the low educated group as far as the awareness towards population problem is concerned.

(iii) for 3 and 992 df, obtained value of F is 1.047, which being less than 2.61 is not significant at 0.05 level. It is concluded that the effect of education does not vary significantly from community to community as far as awareness towards population problem is concerned.

Table 9 **Co-efficient of Correlation**

Variables	'r'	Category of r	Level of Significance
Awareness and Level of Education	0.23	Positive	0.001

Table 9 shows that the co-efficient of correlation between Awareness towards population problem and level of education is 0.23. It, being larger than the table value of 0.10 is significant of 0.001 level of significance. It is concluded that there is a significant positive correlation between level of education and Awareness towards population problem.

Verification of Hypotheses

1. There is no significant difference in the population awareness among cross religious groups of the society.

   F-ratio among Hindu, Muslim, Sikh and Christian communities is 3.32, which is significant at 0.05 level, hence above hypothesis is rejected at 0.05 level of significance.

2. There is no significant difference in the population awareness of Hindu and Muslim communities.

   Mean difference between the Awareness of Hindu and Muslim Communities is 0.47, obtained t-value of 2.15 is significant at 0.05 level, hence, above hypotheses is rejected at 0.05 level of significance.

3. No significant difference exists in the population awareness of Hindu and Sikh communities.

Obtained Mean difference between Hindu and Sikh communities is -0.206, for which t-value is 0.93. It, being less than 1.96, is not significant at 0.05 level and above null hypotheses is accepted at 0.05 level of significance.

4. There is no significant difference in the population Awareness of Hindu and Christian Communities.
   Mean difference between the two communities is -0 328 for which t-value is 1.55. It being less than 1.96 is not significant at 0.05 level, hence the null hypotheses is accepted at 0.05 level of significance.
5. No significant difference exists in the population awareness of Muslim and Sikh communities.
   Obtained Mean difference between the two communities is -0.678 and t-value is 2.43. It being significant at 0 05 level, above hypothesis is rejected at 0.05 level of significance.
6. No significant difference exists in the population Awareness of Muslim and Christian Communities
   For Mean difference of 0.80 t-value is 2.95. It, being larger than the table value of 2.58, is significant at 0.01 level, hence above null hypothesis is rejected at 0.01 level of significance.
7. There is no significant difference in the population Awareness of Sikh and Christian Communities.
   For Mean difference of -0.12, t-value is 0.45, which being less than 1.96, is not significant at 0.05 level hence above null hypothesis is accepted at 0.05 level of significance.
8. There is no significant difference in the population Awareness of various groups (religion x level of education).
   F-ratio for the mean differences among Awareness of various groups (religion x level of education) is 10 08, which is significant at 0.001 level of significance, hence, above hypothesis is rejected at 0.001 level of significance.
9. There is no significant difference in the Awareness of High and Low educated groups of various communities.
   With F-ratio of 52.27, the Mean difference of 1.23 is significant at 0.001 level of significance, hence above hypothesis is rejected at 0.001 level of significance, hence above hypothesis is rejected at 0.001 level of significance.
10. There is no significant interaction between community and level of education as far as Awareness towards population problem is concerned.
    Obtained value of F is 1.05 which, being less than the table value of 2.61, is not significant at 0.05 level hence above hypothesis is accepted at 0.05 level of significance.
11. There is no significant correlation between Awareness towards population problem and level of education of individuals.

Co-efficient of correlation between Awareness towards population problem and level of education is 0.23, which, being larger than the table value of 0.10 is significant at 0.001 level of significance, hence, the hypothesis is rejected of 0.001 level of significance.

Conclusions

Based upon the results the following conclusions are drawn -

1. Communities (Hindu, Muslim, Sikh and Christian) differ significantly in their population Awareness.
2. Christian Community is most aware of the population problem.
3. Muslim Community is least aware of the population problem.
4. The groups (religion x education) differ significantly in their population Awareness.
5. The most aware group is that of the high educated Sikhs.
6. The least aware group is that of the low educated Muslims.
7. The high educated group is significantly more aware of the population problem that the low educated group.

8. In the higher educated group (i) Sikh community is most aware of the population problem of India, (ii) Muslim Community has least population Awareness.
9. In the low educated group (i) Christian Community has the highest Awareness towards population problem. (ii) Muslim Community has the least awareness towards the problem.
10. Effect of education does not vary significantly from community to community as far as awareness towards population problem is concerned
11. There is a significant positive correlation between the variables - Awareness towards population problem and the level of education. It indicates that the high educated individual is more aware of the population problem than the low educated individual.

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Impact of Mid -Day Meals on Enrolment and Retention of Girls in Primary Schools of West Garo Hills in Meghalaya

Yazali Josephine[1]

The importance of girls education in accelerating socio- economic development of the country has been given priority by the Government of India A variety of measure have been formulated from time to time to promote girls education An analysis of school facilities and their utilisation in terms of enrolment shows marked disparities among states and within each state among sections of communities special programmes for promotion of girls education had been initiated in 1957-58 The main schemes initiated were provision of attendance scholarships for girl students, setting up of special institution in vocational training which would meet the vocational needs of girls

The special schemes for girls education in a number of states appear to haye been initiated without adequate preparation and consultation with lower level administrative machinery. Besides, there was no integrated overall plan for the selected districts or blocks of a district to take into account of the local needs and economic ability to meet the other expenditure of schooling. State Meghalaya is one of the example of such kind

Meghalaya state is situated in North Eastern Region of India. The state is consist of seven administrative districts The society consist mainly three tribes namely Jayantias, Khasis and Garos. In an egalitarian society such as that of Meghalaya where matriarchy prevails and girls despite their better social status are yet not reaping the full benefits of schemes for enhanced enrolment and participation in primary education.

West Garo Hills district is the one among the seven having high number of beneficiaries of incentive schemes, contrary to this the female literacy (31.32 percent) is very low and girls enrollment also very low (48 22 per cent only) The available data shows that many special programmes were introduced in this area and discontinued because of non-utilisation of the schemes and lack of administrators interest.

Recently the central government has launched National Nutrition Programme to improve the enrollment and retention and simultaneous impact on nutrition on primary school children from class I-V The scheme has exactly started from 3rd August, 1995.

The main features of the programme are as follows :

1. The programme will cover all government local body and government aided primary schools in the state will be implemented in three phases It will be implemented in three phases. The first phase will commence from 1995-96 and will cover all such primary schools located in revamped public distributions system and in 40 low female literacy blacks
2. The second phase will commence from 1996-97 and will cover all C.D. blocks with female literacy lower than the national average
3. The third phase which will commence from 1997-98 will cover all the remaining primary schools.
4. The central assistance will be made available to local bodies, authorities, district-wise such as panchayats/Nagarpalika at the rate of 100 gram per student per day, to be lifted from the nearest FCI Godown free of cost in every quarterly cycle of 3 months period.
5. Government of India will reimburse transport cost of Rs 25/- per quintal for moving the food grains.
6. West Garo Hills is consisting of seven development block and

7. In the district West Garo Hills total number of primary schools are 1242 and total enrollment in the primary schools were 56291.

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Sample of the study :

The sample size of the study schools are 10% The district Garo Hills is divided into sub-divisional blocks. For the purpose of the study we have taken up 3 sub-divisional blocks i.e. Dalu, Tura Urban, and Rongram. The classification of the sample schools are given below :

Table 1 Sample Schools

Name of the Division	No of Primary Schools	Sample No of Schools (10%)
Tura Urban	51	5
Rongram	150	15
Dalu	169	17+3 = 20
Total	370	40

The impact has been measured by analysing the trend of enrollment and retention of girl children during pre mid-day meals period and after implementation of the mid-day meals programme.

Impact of the Scheme on Enrolment (Trend)

The Dalu development block is situated to the border of Bangladesh and consisting of wild forests. The roads connecting at the schools are mostly kucha, the Tura urban block is capital of the district. The school facilities of Tura are better than the other blocks and children are comparatively from better economic back ground. The Rogram block is predominantly rural and forest area and school facilities accessibility is also very scanty. However the enrollment growth rate in these three areas (see table 2) during the pre-mid-day meal programme period i.e. 1993 to 1995 was 9.1 (Dalu) 10.9 (Tura) and 10 in (Rongram) which is considered as a pretty good growth rate The difference of growth rates between the three development blocks are negligible (see table) as the growth rate of Dalu was 9.1, Tura urban was 10.9 and Rongram was 10.

Table 2 Enrollment Growth Rates in the three (Sample) Development Blocks

Period	Development Blocks		
	Dalu	Tura Urban	Rongram
Pre MDM period 1993-94 1994-95	9.1%	10.99	10
After MDM period 1995-96	25%	25.30	-19

Table 3 Retention Rates

Period	Development Blocks		
	Dalu	Tura Urban	Rongram
Pre MDM period 1993-94 1994-95	72.65%	45	82
After MDM period 1995-96	100	60	74

The retention rates had varied from each development block. The data shows that even before the MDM-scheme was implemented the enrolment growth rate was high which means the demand for

education was high. The growth rates after the MDM - scheme implementation were rather interesting as the growth rate was 25 per cent in Dalu, 25.30 per cent in Tura urban and shockingly a negative growth rate in Rongram (-19%) it was because of the Jhuming cultivation. The retention rates of the blocks after the implementation of the scheme were very positive as in Dalu it has increased from 72 65 percent to 100 per cent. In Tura urban 45 percent to 60 per cent and in Rogram it has decreased from 82 percent to 74 per cent. Therefore we feel the MDM scheme does not have any impact on this block as this local area has different types of problems like lack of school accessibility; Jhuming Cultivation and densely forest areas. Thus the situational, problems, potentially in each area are not homogeneous even in one district. This aspect of educational problems need to be addressed for local level planning along with economic planning.

Table 4 reveals that In Dalu majority of the people practices Jhuming cultivation, in Tura since it is an Urban area most of them are belonging to the service class. Rongram is dominated by Jhumcultivators.

Table 4 Occupation of the Parents

(in percent)

Occupation	Development Blocks		
	Dalu	Tura Urban	Rongram
1. Farmers	39	nil	9.5
2. Hawakers	8.3	13.3	nil
3. Jhuming Cultivators	44.4	nil	90
4. Labourer	8.3	6.8	0.5
5. Service	nil	66.6	nil
6. Business	nil	13.3	nil

Thus local area level planning can help to eradicate intra district divergence in educational attainments. The local planning would consider not only the educational problems but also closely related problems like economic, social and geographical which generally overlooked by the top level plans.

The economic background of the 99% of the children of the study area seems to be poor. The data (see table 5) shows that except in Tura urban area the remaining parts of the study area majority of people are in the income group of below Rs.20,000 per annum. Since Tura urban area is dominated by the service class, the economic condition are much better than the other two development blocks. The research data reveals that the demand for the incentive schemes and other related programmes are different for Tura people. The incentive of mid-day meals may not be too attractive for them, as in the case of Dalu and Rongram majority as they are from below poverty line, they get some rice by sending child to school and feels child is earning for herself while learning. Therefore parents are interested in sending the other children also to the school since the average size of the family in this study area is big (3 to 4 children per family), parents feel this scheme gives them some economic relief. However due to non-availability of proper data and some technical problems all the children enrolled are not getting the dry ration. The scheme has shown positive impact on girls enrolment and retention in two of the three development areas. The strong and unavoidable problem which were identified for high dropout are listed below (see table 6), there problems can be tackled only by the local area level planning. No matter how much positive impact the scheme has on the enrolment and dropout but the administrative and organisational problems are there which are hampering the way for the smooth functioning. (see table 5).

Table 5 Income of the Parents in Percentage

Income Range (in Rs.)	Development Blocks		
	Dalu	Tura Urban	Rongram
Below 5000	44.4	13.3	44.7
Rs. 5000-10,000	44.4	13.3	48.9
Rs.10,000-15,000	12.2	26.7	6.4
Rs.15,000-20,000	-	6.8	-
Rs.20,000 above	-	40 0	-

Table 6 Development Block-wise Reasons for Dropout

Sl.No.	Dalu	Tura Urban	Rongram
1.	Due to hilly area and wild forests, parents were afraid to send the children to the school.	-	-
2	Parents were unable to provide food regularly for the children before children go to school.	-	Same as in the Col. No. 1 Item No. 2.
3.	Children generally work with the parents in the field	-	Same as in the Col. No. 1 Item No. 3.
4.	Lack of proper school facilities make them disinterested in school	-	-
5.	Extreme poverty of the parents, they were unable to meet the private expenditure like books ,cloth, shoes etc.	-	Same as opposite in Col. No. 1 and Item No. 5.
6.	Lack of awareness among the parents	-	-
7.	Lack of job avenues made them disinterested in education	-	-
8.	Since the job opportunities are very less in the area, the desire to send the children to school has reduced	-	-

Table 7 Problems and hurdles faced by the organisers in Implementing the Scheme

Sl.No.	Dalu	Tura Urban	Rongram
1.	Money given for loadin the rice sacks is very meagre	As in the Col. No. 1 and item No. 1.	As in the Col. No. 1 and item No.1.
2.	The quantity of rice alloted per child is very less.	-	-
3.	Secretary of the scheme has spent his own pocket money for lifting the sacks		As in the Col. No.1 and item No. 1.
4.	No other facilities are available for successfully implementing the scheme	-	-
5.	No labour cost is given by the government	As in the Col. No.1. Item No. 1.	As in the Col. No. 1 and Item No. 1.

Findings of the Study

1. The enrolment growth rate of girls in primary school has increased in Dalu and Rongram area. The growth rate after the implementation of the MDM Scheme was 9.1% to 25% in Dalu and 10.9% to 25.30% in Tura urban area. But in Rongram the growth rate was negative (-19) because majority of the people are practicising Jhuming cultivation. Therefore it is assumed as zero impact on this area.
2. The retention rates also has increased in Dalu and Tura urban area i.e. 72.65% to 100% in Dalu and 45% 60% in Tura urban area. But the retention rate has decreased from 82% to 74% in Rongram.
3. Monitoring of the working of the scheme is voluntarily done by the villagers even though there is a govt. constituted monitoring commitee.
4. To bear the cost of conversation of the dry ratios scheme to one of hot meals centre would have to bear a handsome expenditure. It is estimated that for the entire country; the centre would have to bear an expenditure of Rs.3,600 cores in 1977-98 for providing the cooked meal for nearly about 11 crore children in 5.90 lakhs schools of the country (Usha Rai, H.T. April 14) paying at the rate of 70 paise per meal per child for dry ratios alone the centre picked up a bill of Rs.1,400 core in the eighth plan. The hot meal was tabulated at an additional Rs.1.50 to Rs.1.80 per head. A hot meal was seen as positive incentive for education in the Backward and poorest districts. Construction of Kitchen, sheds and recruitment of cooks will definitely cost more.

   However it was mandatory for the state to convert the dry rations into the hot meal. The fuel, spices and other things for cooking were to be provided by the states and the village community.
5. For the proper assessment of the benefits of the scheme to the centre, better computer, information management system is needed in the state district and at the block level.

   There have also been problems in transporting the food grains to the schools. Since recovery of the money spent on transport has been slow; the lifting of grains from the FCI godown also getting delayed. In such situation if the village wanted to lift three four months allotment of the rice in one trip firstly the FCI would not permit them and secondly there is not enough place to keep the rice. In this hilly area carrying the food up in head loads is a difficult task and moreover the transport subsidy found grossly in-adequate.

   However, if the scheme works as conceived, primary education in the district would get a boost. It is observed from our study that the introduction of MDM (NNP) scheme is one of the important factors for improving attendance of primary school children. The study findings reveals that the programme is successful in the Development Blocks of Dalu and Tura. However

it was found to be having zero impact on Rongram development block as the area still practices Jhuming cultivation. Therefore we feel that there is a need for in-depth study of the problems of girls education in Rangram development block.

6. The district need to be developed economically as it is found to be difficult for the people to meet the private expenditure of the education unless the economic condition is not improved in the area, the schemes for education will not give a full impact. It has been observed that majority of the people are still following the premitive cultivation system i.e. Jhuming cultivation. In such a case it is inevitable to control the dropout rate as they keep moving from place to place. Unless an overall integrated development plans takes place in the district it may be difficult to achieve universal retention of girls.

Since the transport facilities are not developed and accessibility of schools in rural densely forested areas are meagre, we feel a model residential school could be tried. The district demographic profile shows that, the average family size of the district is very high, and the economic conditions are not very sound in the area, the development of education has been adversely affected.

The success of any scheme will be visible only when the scheme is implemented for a longer period. This has been in practice in our country to discontinue the scheme after one two years of introduction. Lastly for the better results of the scheme the following are the suggestions drawn from the investigation.

The quota of rice should be increased
It should be given regularly every month
For the smooth functioning of the scheme, the infrastructural facilities like store room, availability of adequate money for lifting the sacks etc. should be improved.
Efforts should be made to involve the community to share the work and other major things.

The scheme if it is properly planned and implemented in the light of the above discussions, offers promising results especially in the economically backward pockets of the state However the district needs thorough economic and educational development.

7. There were four main reasons for parents for not sending their girls to schools viz (a) financial difficulties (b) girls being required to help household work (c) girls being needed to act as nurse-cum aids to younger children in the family (d) girls being required to help in occupation to earn wages to increase the family income. Social barriers, indifference of parents; lack of appreciation of education etc. were not found to be of much importance in this area.

8. However majority of the respondents felt that it is necessary to educate the girls in the present set up of the society and that the educated girls could manage household duties and child care in a better manner.

9. The parents of the non-school going children desired facilities, such as free supply of textbooks, stationary, states and school uniforms followed by stipend or scholarship and free mid-day meals with milk supply for sending their daughters to school.

10 Large proportion of parents of school going children were appreciative of the scheme introduced and considered it good for including girls to attend schools. They also expressed dissatisfaction because of the delay in receipt of the rice and not adequate in terms of quantity and not satisfied with quality.

11. The findings of the study points out the need for the continuation and expansion of the scheme. The scheme is popular because parents feels it has directly lightened their burden on the education of their children. The study also revealed that there are deficiencies in the planning, estimations and implementation of the scheme.

12. The involvement of village heads and local community leaders in the management of the scheme is minimal. The linkages between the school and the village committees is not developed as a result the local people are unable to assume any responsibilities for better improvement in the school.

13. The lack of access of primary schools within walking distance of children in sparsely populated scattered villages constituting over one-fourth of the habitation. In such a situation the access of

schooling being a pre- requisite for enrollment, retention target for 100% enrollment is not feasible.

14. The roads connecting to schools are mainly Kucha, since the areas are mostly forest areas it is not possible for a child to walk far.

15. The inability to adopt the strategy of non-formal education in those areas facing schools due to lack of accommodation and instructors. The incentive schemes given for the enhancement of enrolment and preventions of dropout lacks proper planning and implementation. The area level planning is needed in such areas.

The problems identified above are meant not to magnify the issue but to stimulate our thought to the possible hurdles and adopt suitable remedial measures. The problems being numerous and varied, it is desirable to formulate strategies on a selective basis keeping in view of the resources.

Conclusion

There is a need for a holistic view of the total education system and also of each components of the system. While planning goal of universal enrollment at the primary stage, it is necessary to place it in the over-all context of the school education and its linkage with other stages. The need is for involving a total vision of the school education and work out a multi-dimensional strategies to improve quality of education along with quantitative expansion. The emphasis need to be shifted from enrollment and retention to positive support to the girl child to ensure at least five years of effective schooling.

The study attempted to look into the impact of National Nutrition programme. (Mid day meals) on enrollment and retention of girl students at primary level in West Garo Hills. The working of the MDM scheme, difficulties, associated in implementation and likely suggestions for its improvement have also been worked out in this study. The study is based on the primary schools, data about the number of schools, number of students registered, number of them attending school etc. The study covered 40 primary schools from rural and urban areas of the 3 development blocks of Garo Hills of Meghalaya state i.e. Dalu, Tura and Rongram. For this purpose headmasters of selected schools, Administrators, from the state to block level and the guardians of the students were contacted and interviewed.

The programme on mid-day meal scheme is the central government grander dream of attracting children to schools through a nourishing, mid-day meals of the Tamil Nadu model, have a success to 60%. It is successful even in West Garo Hills of Meghalaya despite many problems. The State Meghalaya is now distributing dry rations. However to bear the cost of conversion of the dry rations scheme to one of hot meals centre would have to bear an handsome expenditure. It is estimated that for the entire country, the centre would have to bear an expenditure of Rs.3,600 croes in 1997-98 for providing the cooked meal for nearly about 11 crore children in 5.90 lakhs schools of the country (Usha Rai, H.T. April 14) paying at the rate of 70 paise per meal per child for dry rations alone the centre picked up a bill of Rs.1,400 crore in the eighth plan. The hot meal was tabulated at an additional Rs.1.50 to Rs.1.80 per head. A hot meal was seen as positive incentive for education in the Backward and poorest districts. Construction of kitchen, sheds and recruitment of cooks will definitely cost more.

However it was the mandatory for the state to convert the dry rations into the hot meal. The fuel, spices and other things for cooking were to be provided by the states and the village community. For the proper assessment of the benefits of scheme the centre, better computer, information management system is needed in the state.

There have also been problems like transporting the food grains to the schools. Since recovery of the money spend on transport has been slow; the lifting of grains from the FCI godown has been late.

If the village wanted to lift three four months allotment of the rice in one trip the FCI would not permit and secondly there is no place to keep the rice. In this hilly areas carrying the food up in head loads is a difficult task and moreover the transport subsidy was found grossly in-adequate.

However, if the scheme works as conceived, primary education in the district would get a boosts. It is observed from our study that the introduction of MDM (NNP) scheme is one of the important factors for improving attendance of primary school children. The study findings reveals that the programme is successful in the areas of Dalu and Tura. However it was not found to be so in the case of Rongram

development block as the area still practices Jhuming cultivation. Therefore we feel that there is a need for in-depth study of the problems girls education in Rangram development Block.

Whither Non-Detention System?

M. Nirmala Jyothi[1]
T. Rajya Lakshmi[2]
Y. Sudhakara Reddy[3]

Introduction

The modern philosophy of education underscores the importance of bringing out the multifaceted talents of the students and a holistic display of their latent intellectual abilities. Several reforms have been debated at length and new methods of monitoring the progress and advancement of students at different stages of education were implemented in our educational march. However, there are two great eroding bottlenecks viz., wastage and stagnation which hampered our march towards the progress in school education.

One of the drastic remedies for several ills of the school education system is the Non-detention system or the Automatic Promotion Policy which was pioneered by the Government of Andhra Pradesh has been implemented in A.P. since 1971. This system is in operation even today in the school education programme. Rao (1971) who pioneered this innovative project opined that education is best imparted in an atmosphere of free progress where the incentive and urge to learn springs from within the system rather than from the terror and fear of examinations and anxiety of annual detentions which in turn will minimise the two menacing problems of education viz., wastage and stagnation.

According to non-detention system introduction in A.P. since 1971, any student will be promoted to the next higher class during his/her school career if he/she puts in a stipulated percentage of attendance, irrespective of his/her academic achievement. However, there will be two common examinations one at the end of the upper-primary level corresponding to class VII and the other at the end of secondary level corresponding to class X. A student may be detained only in these two classes if he/she does not pass the respective common examinations. In all other classes a student will be promoted automatically.

Like any other innovative measure, this reform drew mixed reactions from the educational elite of the country.

Some contended that examinations and detentions are necessary, if not essential, in any education system, while others denounced them in toto. It is felt that this system would be more conducive for better teaching and better learning (Krishna Moorthy, 1971; Kabra, 1971). Sarabachari (1971) and Satyanarayana (1971) observed that the teachers will be released from the cruel grip of yearly examinations under the non-detention system. It was also visualized that this system would allow teachers ample time and freedom to experiment with new methods of teaching and evaluation and also to develop the desired intellectual skills and personality traits among the students. Above all, this system would reduce wastage and stagnation among the students (Krishna Moorthy, 1971; Venkata Rao, 1971; Kabra, 1971; Rao, 1977). These views were recently also endorsed by All India Student Federation (Andhra Jyothi Daily, 8th July 1997), while protesting against reintroduction of detention policy.

However, the system was criticised as the most unacademic decision on an academic matter to abolish detentions with a stroke of pen. The system was also condemned on the ground that standards of education which are already low will slide down further and would lead to staggering proportions of drop-outs. It was also contended that this measure would initiate indiscipline in all matters of education (The Editor, The Education Review, 1971). It was also felt that this system would tax teachers with a very heavy responsibility which they would have to carry-out under abnormal conditions like over-crowded classes, under-staffed schools and lack of proper teaching aids (Through different states, Educational

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India, 1971). The same opinion was expressed by Andhra Pradesh Teachers's Federation (Andhra Jyothi Daily, 23rd Dec'96) and All India Student Federation (Andhra Jyothi Daily, 8th July, 1997)

Malle Krishna Moorthy (Andhra Jyothi Daily, 5th September 1996) stated that non-detention system led to the prevalence of slackness on the part of the teachers and negligence on the part of the parents towards education. He felt that there is an urgent need for re-introducing the detention system to maintain standards.

Thus there is a diversity of opinions about the automatic promotion policy even today. There is no gain saying that this system should be discarded without empirically assessing it. Students are the persons who have to undergo this system. Teachers have to implement it while administrators have to supervise and monitor the system. Their attitude is very vital in making the total education system more effective. It is worthwhile to know the reactions of students, teachers and administrators towards the non-detentions, so as to suggest suitable remedies or to improve its functioning.

The Problem

Thus the problem chosen for the investigation is to assess the attitude of students, teachers and administrators towards the non-detention system and to make a comparative analysis of the attitudes of these three sub-groups of subjects to make an indepth analysis of some salient issues relevant to automatic promotion policy.

Objectives

The following objectives were set out for the study:

1. To assess the overall attitude of students, teachers and administrators.
2. To make a comparative study of the attitudes of students, teachers and administrators towards the non-detention system.
3. To find out the different factors which contribute to favourable attitude or unfavourable attitude of students, teachers and administrators towards the non-detention system.

Tool used

To measure the attitude of students, teachers and administrators towards non-detention system, a specially designed 5 point scale prepared in line with Likert's (1932) summated rating method was used. This tool was developed and standardised by Jyothi (1989). The tool was standardised on a relatively large sample of 240 students and 240 teachers separately. Content validity, item validity, intrinsic validity (0.91 for teachers and 0.97 for students), criterion validity (r_{bis} = 0.75 and r_{bis} = 0.77 respectively for teacher's sample and student's sample) were established for the tool.

The split-half reliability was established on the sample of teachers and students separately. The reliability coefficients of the tool were 0.81 for teachers and 0.94 for students.

Thus the tool used in this investigation is a standardised tool developed for measuring attitude towards non-detention system. The tool consisted of 58 items which was categorised into 14 most significant factors.

Sample and Design

Stratified, systematic random sampling technique was adopted in the selection of students, teachers of urban and semi-urban areas and also in the case of administrators. Whereas cluster sampling technique was followed in the selection of students and teachers from rural localities. Thus the sample consisted of 1080 students, 510 teachers and 40 administrators distributed over 54 schools of three regions viz., Rayalaseema, Telangana and Andhra (Circar) area of Andhra Pradesh. 18 schools from each region were selected for the study. Out of the 18 selected schools 4 schools were from urban areas, 6 were from semi-urban areas and the remaining 8 schools were from rural localities.

The design used in this study was an ex-post-facto design. The data was analysed by applying one-way analysis of variance.

Results and Discussion

As stated earlier, an attitude scale was developed to measure the attitude of the students, teachers and administrators towards the non-detention system. The attitude scale was factor analysed to identify the most significant factors contributing to the attitude and 14 factors were obtained The overall attitude score and also the factor-wise scores of the sample of subjects were analysed by applying analysis of variance to examine significance of the difference among different sub-groups of Ss viz., students, teachers and administrators towards non-dention system.

Since the attitude scale consisted of 58 items with the score on any item ranging between 1 and 5, the scores on scale could range between 58 and 290 with a neutral point of 174 (Shaw and Wright, 1967).

A mean score above the neutral point indicates positive attitude towards non-detention system while a mean score below the neutral point shows a negative attitude towards the system.

Table 1 : Means, SDs, 't' and 'F' Value of different samples for different factors

Sl. No	Name of Factors		Students (N=1080)	Teachers N=150	Administrators N=40	Neutral point	'F' df=2 1627	E.M.S.
01	Overall Score	M=	156.36***	147.99***	154 88***	174	52.41***	240.70
		SD=	14.72	18.87	25.10			
02	Policy Implementation	M=	31.31***	31.56***	34.10***	45	0.44	343.30
		SD=	7.00	6.92	8.71			
03	Facility	M=	9.37	8.19***	8.70@	9	33 28***	7.45
		SD=	2.70	2.31	2.86			
04	Teaching Learning	M=	14.17***	14.12***	14 43@	15	0 27@	7.75
		SD=	2.93	2.58	2.11			
05	Personality	M=	9.83***	10.77***	10.35***	9	31.86***	4.66
		SD=	2.30	1.91	1 91			
06	Discipline	M=	9.67***	9.09@	9.15@	9	11.34***	5.41
		SD=	2.42	2.23	2.34			
07	Incentive for Progress	M=	10.60***	9.60***	9.95*	9	28 29***	6.35
		SD=	2.49	2.64	2.36			
08	Learning Skills	M=	7.63***	6.40***	7.40***	9	38.61***	6.79
		SD=	2.57	2.70	2.66			
09	Educational Policy	M=	7.95***	8.06***	8.63@	9	1.78@	5.04
		SD=	2.41	1.87	2.12			
10	Freedom for the Teachers	M=	9.76***	7.34***	7.83*	9	126.23***	8.32
		SD=	2.76	3.09	3.61			
11	Emotional	M=	8.34***	8.13***	8.18**	9	1.64@	5.13
		SD=	2.35	2.11	1.99			
12	Dullards-Wastage and stagnation	M=	10.61***	9.96***	10.80**	9	11.59***	6.67
		SD=	2.60	2.58	2.55			
13	Competence	M=	9.82***	8.61***	9.33***	12	25.79***	10.02
		SD=	3.17	3.17	3.32			
14	Ethical Value	M=	6.43***	5.71***	6.45***	9	11.33***	8.22
		SD=	2.88	2.83	3.11			
15	Learning in a Natural Setting	M=	10.87***	10.50***	9.60@	9	8.32***	6.18
		SD=	2.59	2.31	2.26			

Note: 1. All the mean scores except those marked asteriks are significantly different from the neutral point.
2. All the 'F' ratios except those marked significant at 0.001 level for 2 and 1627 df.
3. EMS = Error Mean Square
4. The values of different sums of squares for any factor can be calculated as shown below, from which the complete ANNOVA table can be constituted if required:
Between Groups Mean Square (BGMS) = 'F' value x EMS (Error Sum of Squares), EMS=1627)
Between groups sum of squares = BGMS x 2 Total sum of squares BGSS + EMS.

't' test was applied to see whether the mean scores of Ss differed significantly from the neutral point.

The mean scores of the three groups of Ss and the results of ANOVA of the overall score and the factor - wise scores are presented in a summary form in Table 1 without using 30 different tables to conserve space, without loss of essential information.

It may be seen from the table that the mean overall attitude scores of students, teachers and administrators were 156.36, 147.99 and 154.88 respectively. All the mean scores were significantly below the neutral point (174). This shows that all the groups had a significant negative attitude towards the non-detention system.

To examine whether there was any significant difference between the three groups of Ss, one-way analysis of variance was applied. The obtained `F' ratio was 52.41, highly significant at 0.001 level. This indicates that there was a significant difference in the level of the attitude of the three groups towards the non-detention system.

To see which group of Ss differed significantly from the others `t' test was applied. The results of the `t' test presented in Table 2 shows that the mean score (147.99) of teachers was significantly lower than that (156.36) of students. The difference between teachers and administrators or that between administrators and students was not significant. All the sub-groups had a significant negative attitude towards the non-detention system. But teachers had a more negative attitude than students.

Similar analysis was carried out for all the factors separately. Table 2 indicates the results for different factors of different samples.

An examination of the results of the analysis of the factor-wise scores presented in Table 1 coupled with the results presented Table 2 show that students, teachers and administrators had a significant negative attitude towards the non-detention system, as assessed by the factors - `Policy implementation', `Teaching-learning', `Emotional', `Learning skills', `Educational Policy', `Competence' and `Ethical Values'.

Among these factors, no significant difference among students, teachers and administrators in the level of their attitude was observed for factors - `Policy-implementation', `Teaching-learning' and `Emotional' whereas in the case of factors - `Learning skills', `Ethical Value' and `Competence', teachers had far more significant negative attitude towards the non-detention system as measured by these factors. With regard to the factor 'Educational Policy" teachers as well as students were more unfavourable towards the system as measured by this factor, while the administrators had neutral attitude.

Table 2 : Mean scores and the results of `t' test for different factors of different samples

S.No.	Name of Factors	Results of `t' test		
1	Overall Score	T 147.99	A 154.88	S 156.36
2	Facility	T 8.19	A 8.70	S 9.37
3	Personality	S 9.83	A 10.35	T 10.77
4	Discipline	T 9.09	A 9.15	S 9.67
5	Incentive for Progress	T 9.60	A 9.95	S 10.60
6	Learning Skills	T 6.40	A 7.40	S 7.63
7	Freedom for the Teachers	T 7.34	A 7.83	S 9.76
8	Dullards - Wastage and Stagnation	T 9.96	S 10.61	A 10.80
9	Competence	T 8.61	A 9.33	S 9.82
10	Ethical Value	T 5.71	S 6.43	A 6.45
11	Learning in a Natural Setting	A 9.60	T 10.50	S 10.87

Note: 1. The means are arranged in ascending order from left to right.
2. The difference between any two means not underscored by the same line is significant at or above 0.05 level.
3. The difference between any two means under scored by the same line is not significant at 0.05 level.
4. S = Students, T = Teachers, A = Administrators

Students have to undergo the system, while teachers have to implement it and administrators have to supervise the implementation. As implementators teachers naturally feel the real brunt of the system and one more answer to the system than others as measured by the negative aspects of these factors. For example, it is they who have to handle students who get promoted to higher classes without adequate knowledge even in the basic skills. Moreover teachers seem to be very sensitive to the deterioration of educational standards and their moral values because of this system. Even devoted teachers got slackedness in this system because of lessening interest among the students. All these aspects resulted in far more negative attitude among teachers towards the non-detention system.

Though students, teachers and administrators in general had a negative attitude towards the non-detention system, there are certain factors on which they had a positive attitude. The positive attitude of the sub-groups of Ss is revealed in the factors viz., 'Personality', 'Incentive for Progress', and 'Learning in a Natural Setting', 'Dullards - Wastage and Stagnation'. Among these factors teachers had more favourable attitude than students. The non-detention system helped to reduce malpractices in examinations and promotions of students. Teachers seemed to appreciate these facts better than students.

In the case of the factor - 'Incentive for Progress', students had more favourable attitude than teachers and students accept the positive aspects of the new system as measured by this factor, like in the non-detention system the stimulation to learn comes from within the system, defects in the examinations are reduced, there is good scope for the capable to develop well in this system. But the seriousness of teachers favouring the system is less than that of the students.

One of the aims of the non-detention system is to root-out wastage and stagnation, thereby increasing the number of literates. Teachers and administrators are very well aware of the magnitude of this problem and know how this problem has been reduced to a minimum in this system. This led to the recognition of the positive aspects of the system.

Significant differences in the attitudes of students, teachers and administrators were observed for the factors - 'Facility', 'Discipline', 'Educational Policy' and 'Freedom for the Teachers'.

Students had more favourable attitude towards the system as measured by the factors - 'Facility', 'Freedom for the Teachers', whereas teachers had unfavourable attitude for these factors, while administrators had neutral attitude for the factor 'Facility' and negative attitude towards the factor 'Freedom for Teachers'.

Teachers and administrators do not accept that this system would allow teachers ample freedom and time to innovate with new methods of teaching and evaluation, thereby bringing intellectual and personality developments among students. In the present context whatever may be the system of education, teachers are over loaded with their responsibilities. They did not accept this contention of the proponents of the non-detention system.

When examinations are not conducted with its real spirit, naturally students feel free and happy. However, teachers do not feel so because in any educational set up teaching, learning and evaluation should go hand in hand each contributing to the other Therefore, they seem to be averse to this system and did not accept that in this system students learn freely under a natural setup.

Conclusions

.. On the whole it is observed from the comparative analysis of the results of the attitude scores in general and also for 14 factors, students, teachers and administrators did not favour the non-detention system. All the three groups had a significant overall negative attitude towards this system. However, there are certain positive aspects of this system which made them to appreciate the system. These positive expects are related to 'Dullards - Wastage and Stagnation', 'Incentive for Progress', 'Personality'. All the

sub-groups of Ss did not favour the system in toto as measured by the factors - 'Policy Implementation', 'Teaching - Learning' and 'Emotional'.

If the Govt. wants to continue with the non-detention system, it is necessary for the Government to take honest efforts to strengthen the positive aspects of the system and to minimise the negative aspects of the system. It is quite evident from the resolution of the seminar of school teachers held at Hyderabad (July 16, 1971) that teachers were not given through preparation for this reformed system to understand the intricate concept and aims the new system. Teachers are the implementators of any innovative programme. The success of a programme depends upon their level of understanding and preparation given in the form of orientation programmes. Hence, it is necessary for the government to re-orient the teachers, administrators as well as parents and students towards this system of education, for which the services of the mass-media can also be taken up.

No wonder teachers, administrators and students have a negative attitude towards the non-detention system. The vicious circle can be broken by reducing the class strength, by appointing sufficient number of teachers in all schools and by carefully monitoring the conduct of periodical tests, valuation of answer papers and despatch of progress reports to the parents. One more important step needed in strengthening the non-detention system is that teachers especially teachers of primary classes should not be entrusted with other duties related to the Government. Their full talents, capacities and abilities are to be best utilised only for their primary role i.e. the school related work.

The All India Student Federation and some more teachers organisations also felt that Govt. should continue with the non-detention system by providing sufficient teaching learning materials (Teaching aids) , facilities, minimising the over crowded classes and under-staffed schools by appointing more teachers.

Therefore, it is necessary for the Government to think in these lines and do the needful if at all it wants to continue with the non-detention system since teachers, administrators and students are well aware of the evil effects of the detention system.

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• Education in India : Impact and Challenges ahead under Changing Scenario

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Introduction

Since the dawn of civilisation, education in one form or the other started for the individuals, by the individuals and of the individuals. India was the world leader in education. Other countries were lagging behind in all respects may be due to not having proper system of education. India was the first to have world level university - Nalanda in Magadh, Vikramshila in Anga and Takshashila in Punjab (presently under Pakistan). Even before and after these universities India had Gurukul system of education. In these Gurukuls teacher was everything for the pupils. Actual practical education with theories and principles were being imparted. Right education to right pupils by right teachers under right circumstances was being imparted for the right cause and purpose. Emphasis was being given to honesty, truth, work culture, living and dying for principles and for the society or the whole humanity as Nation. In World Universities located in India, people from different parts of the world used to come for getting good education, Staff - students ratio as the least, taking personal care, imparting knowledge for self sufficiency, how to live happily and let others live happily, discharging duties and responsibilities towards self development, personality development, parents, family, neighbours, villages, community, place, State, Nation and the whole humanity that too with honesty and full devotion, society needed course curriculae, more stress on social morals and values, unity of the Nation, fighting for the cause of humanity etc. were the main aspects of education system. Education was for positive development of all and in no other way it was used for disservice to humanity or harassing any one or making any one unhappy for the real good cause. People were happy. The rulers were happy. All worked in close cooperation among themselves to make the whole society happy by utilising the then education and its theme.

Present Day Effects

Education and education system started changing during British period itself and after independence it has changed completely in various facets. Since independence time has changed. Due to rapid changes in scenario in all aspects of life specially due to high population growth, urbanisation, modernisation, industrialisation, limiting the whole world into a global village and scientific development, number of educational institutions - be at the school levels or the college levels or the university levels, be it for primary education, secondary education or higher education and be it for professional education viz. technical education, medical education or management education etc. has increased thousand folds. Course curriculae have been changed. The whole education system has been changed. Now it is open to all. Any willing person can have any type of education at any place at any time. Education is also within the reach of everyone. But simultaneously present education and education system have many negative effects on one and all and finally on the nation rather on the whole humanity itself. Some of the ill effects are :

1. Educated ones are getting self centred. Doing every thing for self and not bothering for others, even getting everything at the cost of others are general result of the present day education.
2. Joint families have broken into smaller individual families or families of three to four members not even caring for parents. All are bothered only for themselves.

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3. Attitudes and sense of cooperation, co-ordination and working together for all better work and better progressive ideas are facts of yesteyears. Individually everyone wants to achieve everything but is unable to do anything without co-operation of others. Team spirit is completely lacking.
4. Jealousness, dragging feet of progressive one, creating/putting obstacles in the way of progress of others, even to the extent of in case of near and dear ones are found every where.
5. Respect to elders, respect to others and also self respect in actual sense are almost forgotten. Everyone wants respect but does not like to give respect to others.
6. In the family, in the mohalla, in the villages, in the community, all types of rituals, morals, norms, values etc. are things of history now. Present generation does know even these and what to talk of purpose, objectives and benefits of these.
7. Social customs, various festivals, various sanskars etc. are becoming extinct. What so ever are existing, are just for the name sake.
8. Unit among the people in every walk of life either at village level or panchayat level or State level has been lost. This was the main factor behind India's culture, progress and all round development.
9. Course curriculae for all types of education are not as per need of the employment market and the society, thereby products of present education system are unfit to give the expected output to the society immediately They have to be retained by required organisations as per need.
10. No actual on job training is imparted to people while pursuing various courses. All education are just theoretical and thereby have no effect on either individual's development or on society's development.
11. No stress is given on social culture, morals, values, rituals, religion, yoga, ethics, humanity etc. in the educational curriculae thereby resulting the whole exercise of education into futile exercise and rendering all educated people as unsuitable to the general society.
12. Present generation is not interested in classroom lectures and examinations. Rather their attitudes and tendency are to get Degrees/Certificates by hook or crook even without studying and putting proper efforts towards that.
13. Present day generation wants immediate employment on the basis of their certificates/degrees whether they are suitable for posts and responsibilities or not.
14. New educated mass has no satisfaction regarding earning of money whether by legal or illegal means that too without doing works. Everyone wants to be millionaire overnight itself.
15. Educated youths find themselves at the working place as wrongly placed. In 97 per cent cases there is no right person to the right job, at right place, in right time resulting into unproductive work, wastage of resources and spoiling of the organisations.
16. There is no sense of belongingness to the education institutions from where one has passed or to the employing organisations. Even it is not found for elders and parents of the family and what to talk of belongingness and patriotism to the country.
17. Everyone wants to stay in towns and does not live/work in villages even though one has spent about 15-20 years of life in his native village.
18. No one wants to work as agriculturist resulting into non-availability of sufficient number of persons to look after and to work for agriculture works in villages.
19. No one whether belonging to urban area or rural area has right attitude to work.

These are a few ill effects of present day education and similarly there may be many more.

But simultaneously the present day education has many positive effects too viz.

1. Equal opportunities to all - men and women - of any caste or religion for getting education of one's choice.
2. Rapid changes, improvement and development of science and technology and hence help the country and the world to develop in all aspects of life.
3. New areas of education and new vistas of employment have come up.
4. All are aware and conscious regarding social evils and hence it has been possible to remove untouchability, inequality among men and women in the areas of the education and employment etc. Awareness to deal with dowry system, casteism, religionism, hatredness among various communities and injustice to anyone without any reason as well as biasness on different accounts.

5. Rapid growth and development has brought industrialisation, modernisation, automisation, liberalisation and globalisation of the whole humanity.
6. New knowledge, technology and education have brought full revolution in all aspects of life - be it in communication or in transportation or leading life happily, health, agriculture, industry and defence etc.
7. Present education has helped in making people aware to have less and less population. All men and women are serious to have small size family so as to have better progress and happy life in all required aspects and areas.
8. People are having different successful schemes to remove poverty and to utilise the manpower effectively for betterment of the self and the society. All are serious towards this end.
9. Various types of orthodoxism and wrong rituals prevalent in the society are becoming non existent.
10. All are aware of their duties and responsibilities as well as their rights wherever they are.
11. Standard of life in various aspects has risen to great extent due to development in all areas of life and utilisation of increased better and better facilities available to all.
12. Eradication of various killer diseases, better medical facilities, health care devices and methods have increased the age of sound life.
13. People of different regions/countries are able to understand one another and are helping the needy ones to make the whole humanity happy.

Similar many more positive effects of present day education have been observed.

Challenges Ahead

Present day education and education systems have influenced one and all in one way or the other. Day to day various negative and positive effects are there in the society, the country and the whole humanity.

Need of the hour is to remove negative and ill-effects of present education. These ill-effects if not removed, will spoil the whole society and finally it will prove to be disastrous to the mankind itself.

Education is for betterment of life of individuals and the society. Specially in the present era when so much industralisation, automisation, modernisation and liberalisation in various aspects are there, education planners and administrators have to think hundred times how best and in what way, for whom, at what time, in which areas, at which place, of what types of education, education system, curriculum, evaluation etc. alongwith educational institutions are required to be planned, scheduled, implemented, administered and then monitored and controlled so as to make everyone's life happy in real sense in all aspects and hence to make the whole humanity the most prosperous, developed and the happiest.

Universal Elementary Education

Madhu Kushwaha[1]

Education is one and only powerful instrument for development. Education provides liberation from ignorance and oppression. It is education which turns population into 'man power'. Recognizing that education is vitally linked with the totality of development process, the reform and restructuring of the educational system was accepted as an imGaportant area of state intervention. Accordingly the need for literate population and universal elementary education for all children up to age 14, was taken as a national and constitutional commitment.

Half a decade ago, we in India had taken a pledge through Constitution that within a period of ten years from 1950, free and compulsory elementary education would be provided to all children up to 14 years of age. Since then major efforts have been made to achieve universal elementary education (UEE). Over the years there has been very impressive increase in the number and spread of institutions as well as enrolment. Today India has about 574,000 primary schools (Class I-V) and 156,000 upper primary schools (class VI-VII). The number of teachers in them being 1.705 million and 1.082 million respectively. The enrolment at the primary and upper primary stages are 109 million and 40 million respectively. Primary education is imparted in 50 languages. The Indian elementary education system is thus the second largest in the world enrolling 149 million children constituting 82 per cent of the children in the age group 6-14. During the last 10 years, enrolment rate has grown close to 100 per cent at primary stage. While the gross enrolment ratio (GER) at the primary stage in the country as a whole and most of its states exceed 100 per cent, there are few states where the ratio is lower.

Even 100 per cent enrolment does not ensure that all the children are actually getting elementary education. While considering high enrolment ratio one should not forget that drop out rates continue to be high. Inspite of the declining trend nearly half the children who entered in class 1 drop out before reaching class V, and two third of the children drop out before reaching class VIII. Regional and gender disparities are conspicuous in regard to enrolment and retention. Despite the outstanding increase in gross enrolment ratio (GER) the number of children outside the elementary school system is still 19 million. In the National Policy on Education (NPE 1986) with the revised modification in 1992, we resolved to achieve the goal of Universal Elementary Education by the turn of the century emphasizing on three aspects; universal access and enrolment, universal retention up to 14 years age and substantial improvement in the quality of education. The NPE 1986 policy and its programme of action give unqualified priority to Universal Elementary Education, adult literacy and education for women. Moreover it shifts the emphasis from enrolment per se to enrolment as well as retention and achievement. As the POA 1986 pointed out,

"Enrolment by itself is of little importance if children do not continue beyond one year, many of them not seeing the school for more than a few days."

Thus the high drop out rate is a serious obstacle to achieve the goal of Universal Elementary Educational (UEE). There are drawback from both sides (demand and supply) of education. Education in most of our elementary schools is so unattractive and irrelevant that most children who enter school are driven away from it. Our Government's priority to achieve the Universal Elementary Education is reflected in budget allocations during last 10 years, specially current Five Year Plan (1992-97) for expansion and improving the quality of elementary education. But a large proportion of funds meant for primary education is used to serve political and vested interests of groups and individuals, because the quality of education is not even the last priority. We always talk about education and not of good quality education. There is neither pressure from the Government, nor from the public, nor from the students or teachers to provide good quality education.

Our Constitution ensures that there will be no discrimination in admission on the basis of caste, religion, colour, creed etc. But socio-economic factors often contribute to several segments (such as girls,

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SCs, STs) remaining socially and educationally backward. Generally groups vulnerable to social discrimination also suffer from economic deprivation. Amongst the deprived section of the populations, women are doubly disadvantaged--suffering from an unequal status in the family as well as in the society. It contributes to the enrolment rate of the girls and high drop out rate amongst them than those of boys.

Large scale expansion of elementary education has resulted in the establishment of educational facilities with widely varying quality in terms of institutional infrastructure, teaching-learning process as well as the 'quality' of students passing out of these institutions. Most of our elementary schools are of sub-standard. There is a vast difference in standard and facilities of rural schools, municipal schools, urban schools, private aided schools, private unaided schools, central schools and Navodaya Vidyalayas. Our Constitution states education as a fundamental right of every child, but we fail to ensure good quality of education, equitable education, education of same standard for all. Education for all has no meaning unless it is education of the same uniform pattern for all.

Teacher performance and competence is the most crucial input in the field of education. Unfortunately in our country, primary school teachers do not get much importance, attention and status in the society what they need. Their training is neglected. However it needs a high degree of sophistication and specialisation in child education, because he is the man who is supposed to shape the personality of the child. In the most developed countries primary school teachers get almost the same salaries as high school teachers. We have to raise the salaries of our primary school teachers but what is equally important is that we have to think of their proper training and demonstrate ability and interest in child education. In a nut shell, elementary school teachers should be highly motivated to teach because lack of motivation to teach is a serious problem. Only a motivated teacher can harness and use the pupils motivation and interest to read, and make the teaching-learning process relevant and attractive which can be helpful to reduce the drop out rates.

We can achieve the goal of Universal Elementary Education (UEE) by setting up new targets and implementing new strategies, using alternative channels for imparting education, through non- formal education, with help of NGOs and by effective use of media, but in true sense we are not universalizing the elementary education, by not imparting education of equal status to all children. The main emphasis should be given to the *equal and good quality education for all, not only the education for all.*

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• Vocationalization of Education - Historical Perspective

S.R. Gangopadhyay[1]

Overview: After independence, Maulana Azad took over as the first Education Minister. As a freedom fighter he knew very well about shaping Indian Education to cater to the needs of the people. The discussions generally began with the question: What is the national system of education? The answer of the experts like Maulana Azad was that we first evolved the concept as a part of our struggle for freedom between 1900 and 1947, that the concept is still valid, and that we should continue to use it, with such modifications as would be necessary from time to time, in all our future attempts at educational reconstruction as well (Naik, 1982).

Introduction

The need for change in the education system of the country had been engaging the attention of the Government of India, State Governments and the education experts for the last few years. It was felt that education has become highly academic and unpurposeful for a majority of students and especially to the students from rural background. Even though a majority of students want ultimately to enter the world of work there is no conscious effort to provide suitable training for them to enter the world of work except in the case of minor section of the students who secure seats in colleges of Engineering, Medicine, Agriculture and allied courses at college level and Polytechnics and Industrial Institutes etc., at the Higher Secondary level. The number of students in the general degree courses keep on swelling and the products there from are pronounced more and more unemployable as the requirements of a developing economy has not been considered. There is a need for trained personnel at different levels in almost every area or vocation. Trained personnel in some of the vocations are not available when thousands of general graduates are found available but unemployable. This situation has given rise to a feeling of devaluation of the degrees in the eyes of the society and the students themselves.

Lacunae of the Macaulian system of education had been felt with concern for a pretty long time. The tendency in the post-independent period is to remove them so as to make education meaningful towards preparing pupils for an occupational field. It was conspicuous as the recommendations of the various committees and commission on education reflect. But the Adiseshia Committee report 1978 known as "Learning to Do" served as a landmark as its recommendations motivated a few States to start vocational stream at higher secondary stage. The forerunners in this respect were Gujarat, Karnataka, Maharashtra, Tamil Nadu, West Bengal, Union Territories of Delhi, Pondicherry and Goa (Rao & Verma, 1989).

The need of vocationalization of education in our country was realised only after independence, when the Mudaliar Commission (1952) recommended diversification of courses at the Secondary stage. The offshoot of this recommendation was the creation of multipurpose schools. Later, the Education Commission (1964-66) recommended two streams-academic and vocational. The Government of India accepted this recommendation. To implement this scheme a document "Higher Secondary Education and its Vocationalization" was circulated by NCERT, New Delhi in 1976. This document was reviewed by the National Review Committee known as Adiseshiah Committee, whose report was published as "Learning to Do (1978)." From 1976 onwards the States started implementing the scheme of Vocationalization of Education (Jain, 1988). The National Policy of Education (1986) re-emphasised the need of vocationalization of education. Today most of the States implemented this scheme at the Plus 2 stage in schools.

What's it all about? Monroe defines vocational education as 'any educational activity that would prepare one to earn a living could be labelled vocational education.' Thus institutions of higher learning, such as teachers' colleges, medical colleges etc. would be classified as sources of vocational education.

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Good defines it as: a programme of education below college grade organized to prepare the learner for entrance into a particular chosen vocation or to upgrade employed workers, etc. (Good, 1973).

According to another definition, "vocational education in its broader sense refers to life-experiences, education and training, both direct and indirect, that fit one to carry on a socially useful vocation. In a more restricted sense, vocational education refers to specific, functional training for useful employment.

Historically, vocational education has been conceptualised as secondary education, focused on training persons for gaining employment in recognised occupation in skilled or semi-skilled positions (Jossey-Bass, 1977). Career education can be described as an umbrella term incorporating such areas as technical education, vocational education, occupational education, vocational guidance and placement.

The purpose of vocational education is to fit persons for useful employment. The main objective of vocationalization is to prepare vocationally qualified manpower for a variety of occupations for which training facilities are hardly available in other systems of training.

The aim of vocational education at the higher secondary level is to provide education and training for acquiring skills, attitudes, understanding and knowledge relating to occupations at various sectors of economic and social life. The education should enable the students to contribute their best to the economic development of the country and to employ their skills to earn their living. It is, therefore, necessary to select those vocations which provide employment opportunities including self-employment either at present or in the near future. The courses should be based on the vocational needs of the community (Report of the Working Group, 1977).

Vocational Education in Ancient India

In the past, vocational education was provided to the sons by their fathers. According to the tradition of the 'caste system', each caste had its separate vocation or occupation. This caste system has played a very important role in providing vocational education in ancient India. The Brahmin youth received training for his future vocation as a priest and a teacher. In the education of the young Kshtriyas greater importance was attached to the knowledge of science of war. Even the royal princes were expected to be proficient in the art of war. In the same way, the Vaishya youth received training in his particular calling in life. Trade, rearing of cattle and agriculture were the special pursuits of the Vaishyas. Even the Shudras had some training for their work. At times some women guards of the kings were skilled in the art of arms. Yet it is worthy to note that 'the ordinances of the caste system were not so rigid and inflexible as never to be violated (Chaube, 1965). The 'Arthashastra' of Kautilya gives a vivid account of education of the young princes. It was the sacred duty of the kings and the nobles to rule justly and wisely and also to protect the weak.

There is no doubt that some form of systematic vocational education was provided in ancient India for a long time, otherwise the Indian society of the old time would not have attained so much vocational efficiency and economic prosperity.

During the Buddhist period, vocational education was never neglected. Even the monks had to know sewing, spinning, knitting etc. They were also required to be acquainted with the science of house-building. Those Buddhists who had a household life were given education in other useful vocations and crafts which helped them to earn their livelihood.

In ancient India, there was many individual guilds. The local industrial guilds were known as 'Srenis' (Chaube, 1965). In the Jatakas, eighteen such guilds are mentioned. There were also associations like - 'Dyers' association', 'Cobblers' association', 'Carpenters' associations', 'Blacksmiths' association'. These associations and guilds have been mentioned by Kautilya in his Arthashastra also. In the ancient Indian literature, there are also many references to trade-guilds and it is likely that training in the required subjects was provided under a teacher. There were Mahajani schools in market towns where the Mahajans or traders might be paying for the teachers.

Vocational Education during the Muslim Period

Many of the Mohammedan rulers continued the tradition of patronising able craftsmen. One of the developments during the Muslim period was the establishment of a number of institutions for training in arts and crafts. Also, some form of apprenticeship was not altogether unknown (Kabir, Humayun, 1961).

The Sultans in Delhi had to maintain a number of workshops to supply the needs of the royal household and the government departments. Firozeshah Tuglak maintained a regular department of industries under his personal supervision and took keen interest in the technical training of his slaves. During his times (ruled 1351-1388), some of the workshops were converted into institutions of vocational training. The production of war goods also helped in the development of handicrafts. The manufacture of boats, ships, and chariots was done on a very large scale. Art did not exist for art's sake but also for providing means of livelihood and the training in such handicrafts was given to the youths in the traditional family institutions.

Though this type of education in ancient India was often too narrow, yet as a vocational education, it was not lacking in elements that made it really valuable.

Vocational Education during British Period

According to Mr. Howell, "education in India under the British Government was first ignored, then violently and successfully opposed, then conducted on a system now universally admitted to be erroneous and finally placed on its present footing (1872)". From the very beginning, the British pursued a policy of indifference in education. They neglected education in India deliberately and vocational education was no exception to it. Even the very few vocational institutions started during the early British period were without any plan or scheme.

During the British period, professional and technical education was generally neglected mainly because the British Government had no large scale programme of developing the economy of the country or of reducing its poverty (Nurullah and Naik, 1962). On the contrary, the British feared that the development of vocational education would prove detrimental to the trade of England.

Wood's Education Despatch of 1854 mentioned for the first time the need of giving the people an education of such a character as may be practically useful to the people of India in different spheres of life, and suggested the establishment of vocational colleges or such technical schools where education in mechanical and technical. But nothing substantial was done and hence the Indian Education Commission of 1882 recommended the introduction of practical subjects in secondary schools so as to divert them into different walks of life. The Hunter Commission stressed the need for diversified courses of study and recommended strongly to the Government of the day in the following words: "We, therefore, recommend that in the upper classes of high school there be two divisions, one leading to the entrance examination of the universities, the other of a more practical character, intended to fit youths for commercial or non-literary pursuits (Indian Education Commission Report, 1983)." But as usual, the recommendation was almost ignored by the government. Nevertheless, some progress continued in the field of vocational education.

Messrs Abbot and Wood remarked, "We are of the opinion that the expansion of vocational education should begun with full regard to the development of organized industry. It would be a great misfortune if a large body of men received a prolonged technical training and on its completion found that they had no opportunities of using the knowledge they had acquired (Abbot and Wood, 1854)."

Development of Vocational Education in India After 1947

After the attainment of independence in 1947, a wave of enthusiasm in favour of technical and vocation education has been steadily rising in the country. Several Commissions were set up to improve the vocationalization of education.

(a) The Secondary Education Commission (1952-53)

This Commission expressed that in the past, our education has been so academic and theoretical and so divorced from practical work that the educated classes have generally speaking, failed to make enormous contribution to the development of the country's natural resources and to add to national wealth. To bring about a change, the Commission recommended that there should be much greater emphasis on crafts and productive work in all schools, and in addition, diversification of courses should be introduced at the secondary stage so that a large number of students may take up agricultural, technical, commercial or other practical courses which will train their varied aptitude and enable them to either take up vocational pursuits at the end of the secondary course or to join technical institution for further training (Secondary Education Commission, 1953).

(b) The Education Commission (1964-66)

The Commission observes that in the present educational system there is no direct link between education and unemployment and no attempt is made even to establish and indirect link by relating the output of the educational system closely with manpower needs or job opportunities.

Education Commission recommended that work-experience should be introduced as an integral part of all education-general or vocational as one of the programmes to relate education to life and productivity. A revolutionary experiment in the form of 'Basic Education' was launched by Gandhiji in this country. The concept of work-experience is especially similar.

Need for Organised Transfer from School to Industry

The task of vocational schools cannot be called complete unless they manage and help in transferring youth from schools to industries after completion of their training. Such a project would, of course, be a formidable undertaking, and could be accomplished only with the cooperation of schools, managements and organised labour, working through the medium of the advisory boards. Such arrangement of organised transfer has social, economic and psychological advantages over and above the educational ones.

Conclusion

In the year 2000, i.e., just after three years from now, we all hope to have a new portrait of our institutions. It is expected that vocational education shall assume a new shape and our vocational education institutions shall be revitalised.

As Toffler argues, 'Change is a process by which the future invades our lives' so that 'it is important to look at it closely, not merely from the grand perspectives of history but also from the advantage point of the living, breathing individuals who experience it.'

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Free and Compulsory Education For All Children

Avanindra Sheel[1]

In order to think over the modern concept of `Education for all', first of all we would have to remember Gandhiji's basic educational plan-

> "In 1937Gandhji emphasized about the free and compulsory education for all children in his basic education scheme."1

In this connection an important joint resolution was passed by nine countries in 1993 in New Delhi -

> "An international conference was organised in New Delhi on 16, December, 1993, in which the most dense populated nine countries - India, Bangladesh, Pakistan, China, Egypt, Mexico, Brazil, Indonesia and Nigeria - signed on a historical declaration. These nine countries took the oath that they will arrange the education for all upto 2000 A.D. or as early as possible. They repeated their words to give free and compulsory education upto primary level and to fulfill the requirements of their students of secondary and higher levels by providing them better conditions and situations."2

Analysing the above two statements, it seems to be important to discuss first the title `Education for all.' Actually this title presents a misguiding situation before us. Gandhiji insisted upon free and compulsory education for all children while World Conference makes the primary education compulsory and alongwith this also takes care for their secondary and higher students. In general whenever we talk about the education for all, we traditionally mean that we are talking about the compulsory education at primary level. In order to make the concept more clear, I want to suggest that the above title `Education for all' should be replaced by the new title `Free and Compulsory Education for all Children'. I think, it is more specific and illustrative. If we accept this new title, we can study the problem of primary education of different countries in a more comfortable and comparative way.

There are three main features of this new concept :-

(1) For all Children
(2) Compulsory Education
(3) Free Education

For All Children :- This is the first important point under discussion. As far as the physical development of a child is concerned, 1 to 3 years of age is considered as infant stage and 3 to 14 years is called the childhood. The writer's aim is to think over the education for the children of the latter age group. Plato considers education to be totally governed by the state. In his famous book `Republic' he says -

> "The children shall come to school not only if their parents please, but if they do not please, there shall be compulsory education."

In a developing country like India, the target of education children upto 14 years of age, till 1960 has not been achieved yet in 1997. In order to solve this problem, it is essential to count total number of children of this age group throughout the country and to open adequate number of new well equipped schools for them. For this purpose we should completely discard the private management at the primary and junior levels. We should open a large number of schools of equal but high standards, fully governed by the government. It should be the duty of government of each country to fulfill the physical and economical requirements of such schools.

The main problem before parents to educate their children is to arrange finance. Those who are rich, pay higher fees to educate their wards, but a large number of population instead of sending their

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children to school, engage them in earning situations. We should have to take some rigid steps to remove this problem with full determinations.

Compulsory Education : As we all know, education is a worship. It requires a great desire, anxiety and lot of hardwork. So, it may be possible that some parents or children may not pay proper interest in providing or getting education respectively. But as directed by Plato, whether they take interest or not, the education should be strictly compulsory. It is to be made compulsory for each and every child to get education. We would have to construct a law as well as an atmosphere in which parents and children co-operate in this movement willingly. For this purpose we will have to impose an education tax according to the income and to open adequate number of schools. In such schools, the curriculum, games, sports and extra or co-curricular activities may differ according to the local need and capabilities, but as far as the physical amenities and standards of teaching is concerned, there should be similarity and equality. The educational system of both the communities - rich and poor - should be of the same standard.

Of course it is a difficult task, but it can be achieved by imposing a new education tax on parents and in turn they should be fully exempted from fees. If all such schools will maintain their equal standards, they will definitely provide good education to children. The present situation is totally against it. Some powerful persons are making use of schools as their business houses. Their schools appear like three or five star hotels. These so called grand schools have become the fashion parades of modern society. But on the contrary a large number of schools are in very poor conditions. They look like slums. They do not have their own buildings, play grounds, games and sports material and trained or efficient teachers. Teachers in these schools are badly exploited. Such schools are actually the curse on human civilization. This type of dissimilarity is creating partiality, disappointment and corruption in the society. The most dangerous effect of this double standard educational system is the diffusion of human society in various classes.

The aim of education is to make a person ideal, not to create differences between rich and poor. Unless this system is removed completely and all the schools are not of same status, it will be difficult to give compulsory education to all children.

Free Education : This is the most important aspect of education for all. Various big plans, which appear to be very attractive and useful, become failures due to lack of money. In fact there is no free education in India at any level. Where there is some education, it is not free and where it is so called free, there is no education. The idea of free education to all children is a big failure in India. It is a bitter truth, but truth remains truth. Some schools charge very high fees. Common guardians can not pay such a huge amount of money. Therefore they cannot educate their children in these schools. On the other hand there are some schools, which do not charge too much but their educational and physical atmosphere is so dirty that they feel shy in sending their children in these schools. Therefore only lower class population send their children in these schools.

It is obvious that instead of cleanliness, games, sports, healthy atmosphere and other educational facilities, there are dirty and stinking sorroundings, damaged buildings, incompetent and untrained teaching staff, impure water and poluted air etc. in these schools.

Being poor victims of such hard situations, the parents generally try to use fair and unfair means to educate their children in so called good schools. They curtail their own essential needs to pay high fees and in this way, actually destory the original aims of education itself. It is not difficult to say about the results of such education, moving on the wheels of corruption, disappointment and frustration in the society.

Now a dâys we are facing only the above stated two types of educational systems. No other system is available. Although there may be some exceptions, but in general the picture is the same. Thus it is not wrong to say that where there is some education, it is not free and where it is free, no education is there.

Through a preliminary perusal, this situation appears to very complicated, but if we try to remove it honestly with stern determination, it will be very simple to find of solution. First of all we should make a law at world level that under any circumstances, it should not be allowed to run compulsory education of children under private management. The government should bear the total expenditure of such free schools. It should be made compulsory for every citizen to pay a common education tax just like house tax

and water tax etc. It should also be made compulsory for all parents to send their children in schools. Those who do not obey this law should be punished in such a way that they become bound to educate their children. It turn, they should be completely exempted to pay any fees.

If we are able to apply this type of educational system for all children, we can say that really there is the existence of free and compulsory education for all children. In this system, it seems something new and complicated to arrange economical resources. But it is not so difficult. There are so many taxes, which are complicated, but their practical application is very common in the society. Now we will discuss something about this problem.

Economic Resources : It needs a huge amount of money to make compulsory education free. If we go through the process of taxation, we can get the solution of this major problem. The government can impose a general Education Tax on the parents. However, the poor parents may be exempted entirely or partly from this tax according to their income. The most poor parents, who are unable to pay even the House tax, Water tax, Electricity tax or any other tax, may be completely exempted from this tax, but those who can pay some tax, should pay it according to their income. In order to compensate this loss due to exemption or relaxation, more tax may be taken from richer population.

The help of charitable institutions and donations from industrialists, merchants and other persons may also be accepted to fulfil the economical requirements. When all the institutions of compulsory education will be equal in status and maintain high standards, the richer population will definitely co-operate without hesitation. Such parents already pay a lot of money to educate their children. In this new system the money paid by them will be definitely less than that they are already paying. In this way they will get some economic relief as well as the removal of a great mental tension regarding the admissions of their children. Simultaneously the poor population will also be happy to know that their children are studying in good schools.

If we adopt this new educational system for free and compulsory education for all children, we will certainly produce some capable and ideal citizens, who will serve the humanity by their great works.

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Implications of Childhood Experiences
A Socio Psychological Approach

Shaheen Usmani[1]

"Childhood is the scene of man's beginning as man, the place where our particular virtues and vices slowly but clearly develop and make themselves felt".

Erickson

The vast majority of early researches conducted to study children come primarily from an interest in the best means of educating them to be useful citizens. Medical researches have time and again emphasized the lasting effects on the child of the pre-natal and early childhood environment. This shift in interest and goals has meant that far more research in needed. To some extent, people have studied practical problems that effect the child's personal and social adjustments, such as those relating to unfavourable self-concepts and the conditions that contribute to social acceptance and leadership roles.

The critical period

It is a well accepted fact that the early years are citical in the child's development. This is also expressed in the old chinese proverb, "As the twig is bent, so the tree's inclined". In a more poetic way, Milton expressed, "The childhood shows the man, as morning shows the day".

The first scientific clue of the significance of the early years came from Freud's studies of personality maladjustment. Such maladjustments, Freud found, could be traced to unfavorable childhood experiences. Erickson further explains that babyhood is a time of "basic trust" where in the individual learn to view the world as safe, reliable and nuturuing; or a time of "basic mistrust" - wherein the individual learns to view the world as full of threat, unpredictability and treachery.

The things children learn, Erickson explained, will depend on how parents gratify the child's need for food, attention and love. Once learned, these attitudes will colour the individual's perceptions of people and situation throughout his or her life.

The persistence of early patterns of behaviour have, thus, been demonstrated by studies in several areas of development. It can be well stated that in case of attitudes and values and in preferred leisure activities, people change little as life progresses even when marked cultural changes are taking place. With the right kind of atmosphere, the seeds of a well adjusted and balanced personality can be implanted.

Teacher's Role

As the child enters the portals of formal schooling, he/she is curious, insecure, and needs lot of love and attention. The environment in which he/she thrives here has a strong impact on his/her hereditary potentials. With the right kind of atmosphere, the seeds of a well adjusted and balanced personality can be implanted. In an urban society, where parental guidance is very little, the experiences at school play increasing dominant role in developmental processes. The parenting teachers should realize their role in building the personality of future adults. The emotional needs of children have to be fulfilled irrespective of what their cognitive ability is. Quality education should not be confined to laying standards of education rather extend its wings encompassing a vulnerable, perturbed child. Educational machinery should be geared to bring out mentally healthy individuals with positive thinking.

Teachers need to be sensitive and responde effectively towards children. If children are put on the right track at the beginning and encouraged to remain there until they become accustomed to it or

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realize why it is best, they will be less likely to get on the wrong track later. A high level of emotional quotient may eventually lead to an effective well balanced personality.

This concept has been emphasized by Crow and Crow who say, "It is the responsibility of a teacher to be well acquainted with the psychology of child behaviour and to recognize not only undesirable overt behaviour responses but also the underlying factors that provide such behaviour".

Changing Focus

To what extent a scientifically planned educational program from nursery school to college might contribute to the growth and development process is a question still unanswered.

The starting point in a primary class room should be to know the child, his desires, needs and interest rather than his potentialities and possibilities. In fact, there is too much emphasis on drawing out the best, to the extent that we ignore to suffice the need for love, affection, appreciation and encouragement. Teachers must make children feel that each one of them is important and find ways in which all children experience success.

Teacher's Self Concept

In order to understand children, teachers must first of all be able to understand themselves. They must have an appreciation of their own needs, how they react when their needs are frustrated, the kinds of defenses they use and the possible influences their unresolved problems may have upon the children they teach.

The well adjusted teacher can help his children to adjust. The maladjusted teacher will probably create new problems for the child or intensify already existing ones.

Literacy Campaigns

Various governmental and non-governmental organisations have successfully launched literacy campaigns in order to fulfill the target of Universalization of Elementary Education at the earliest. But, the question is, what happens after the child is literate enough? Have we at any stage thought about developing a child's personality in matters of confidence, independence, and emotional stability which will go a long way in building a sound personality. Perhaps it is hypothesized that once we make children literate; confidence, independence, emotional stability, etc. are automatically imbided.

The non-formal education program has been viewed as an integral strategy for achieving universalization of elementary education. The major purpose of NFE Centres is to ensure universal enrollment. The laying down of Minimum Levels of Learning in the early 90s changes the scenario, bringing in the mood of education of comparable standards in various schools and teachers' accountability. The revised version of minimum levels of learning lately included health and physical education, Art education and Work experience. All this has probably given the system a purposeful direction. Inspite of all these efforts the situation in primary schools looks grim and pathetic.

Survey

It is generally agreed that educational aims which are cherished by teachers go a long way in influencing his method of teaching, classroom organization & pupil control behaviour. This assumption holds good even when a teacher may not be aware of the aims. Unfortunately, most teachers have been found to generally lack the requisite competence to formulate specific objectives, which have undoubtedly effected their attitude towards students.

A sample survey of 50 teachers of MCD Primary Schools of Okhla region, South Delhi revealed a pathetic picture of the state of primary education. The major objectives of the survey were to study :

- the aims of primary education as perceived by teachers.
- the extent of awareness of children's secondary needs among teachers.

- strategies adopted by teachers in fulfilling the needs & personality development with special reference to emotional stability.
- and analyse the focus of primary education programme.

The following research questions were asked to ensure the purpose of survey :

- Name any three aims of primary education as perceived by you in the order of importance. What are the secondary (Socio-Psychological) needs of a primary school child?
- What strategies do you apply in fulfilling these needs ?
- Are you aware of the implications of childhood experiences on adult life? If so, what are they?

The aims of primary education as perceived by primary school teachers are given below :

Aims	Frequency of mention		
	1st Preference	2nd Preference	3rd Preference
Knowledge aim (literacy)	49	--	--
Discipline	--	35	--
Cleanliness	--	7	--
Citizenship	--	--	13
Responsible, useful citizen	1	--	--

Result shows that the major concern of teachers is to make children literate. The second priority is inculcating discipline. Few teachers have put in citizenship as the third priority while only one is trying to help children become useful and responsible adults.

It is amazing that a majority of teachers could not think beyond literacy. They seemed to be stuck after coining knowledge as the primary aim. Many of them were not able to formulate three aims of primary education.

So far as knowledge of secondary needs of the child is concerned, the only need which the teachers (70%) could identify was "appreciation". But, the fact remains that a child's blissful appreciation comes only after successful academic achievement. A small percentage of teachers (20%) did appreciate good conduct also.

Majority of the teachers (85%) were not aware of the implications of childhood experiences on adult life and no significant efforts were made to ensure emotional stability. No one had heard of Emotional Quotient Discipline, cleanliness and citizenship. All the aims were orally dealt with. No practical activity was carried in the classroom to achieve the said aims.

A Seminar on reviewing priorities in primary level curriculum held on 10th & 11th Dec. 1996 at the Department of Pre-Primary and Elementary Education, NCERT also emphasized this point of view.

> "Primary education curriculum should, in formulation and practice, have a more holistic focus and should address the over all development of the child's personality rather than over stressing merely the cognitive and academic aspects.

Things to Ponder

There is an urgent need for bringing attitudinal changes among Primary School Teachers before they produce mechanical object like individuals. As in ancient India, even today for obtaining success in this mundane world education must inclucate the spirit of dutifulness, faith, morality and self-discipline. All this can only be achieved when teachers help in building emotionally stable children and satisfy their socio-psychological needs. Thus making emotionally self-sufficient happy adults.

Some of the principles of ancient Indian education due to which the country ranked among the famous countries may be useful even today. As Al Idrisi of olden days puts it,

"The Indians always follow the path of justice, on account of their love for fair play and justice, honestly, mutual trust and faith, people flock there from far and near".

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Educational Development in India : Role of Education Boards

Kuldeep Agarwal[1]

Introduction

Nearly every state in the country has its own Education Board, which conducts the terminal public examination at Secondary and Senior Secondary level. Some of these Boards even conduct a public examination at the Middle level, i.e. after class 8. Whether we like it or not, the Board examinations do determine the future career of our students. The concept of one time public examination at the end of school education may be criticised by different quarters, but the reality is that the Board examination remains to be as important as ever.

Presently there is at least one Board in every State, in some States there are two. In all there are 31 State Boards and 3 All-India Boards. The All India Boards are : Central Board of Secondary Education, Council for Indian School Certificate Examination and National Open School.

Lately, the move has been initiated specially after the advent of the National Policy on Education 1986, that the Boards should cease to be mere examination bodies and that they take up a greater responsibility and participation in improving and maintaining the quality of education. This has been reinforced by the report of Task Force on the Role and Status of Boards of Secondary Education, appointed by the Department of Education, Ministry of Human Resource Development, Government of India. Interestingly the report is entitled "Remodeling of School Education Boards."

This paper will take a look at the role and status of Education Boards in the country in the changing educational scenario. It will go on to discuss the role that these Boards can play in providing quality school education in the country. It will end with a probe into the ways and means of strengthening the Academic Wings of Education Boards.

Brief historical background of the establishments of Boards of School Education

Pre-independence Period

Calcutta University Commission, 1917 recommended that a Board of Secondary Education and intermediate education consisting of representatives of government, universities, high schools and intermediate colleges be established to look after the administration and supervision of secondary education.

Hartog Committee, 1929 had mentioned that the universities had dominated the whole secondary education and therefore recommended, diversified curricula in the schools from upper middle stage.

The Sapru Committee, 1934 appointed by the Uttar Pradesh Government, recommended that to remove large scale unemployment, the courses at secondary stage should be diversified.

The Sargent Report, 1944, visualised a system of compulsory and free education for all students, boys and girls up to the age of 6-14 and recommended that high school course should cover six years and these should be of two types (a) Academic and (b) Technical.

Prior to 1947, several boards of secondary education were established in different parts by the respective governments. There were two boards in Bombay State.

Post-independence Period

Central Advisory Board of Education in its 14th Meeting held in January, 1948, recommended that a commission be appointed to review the present position of secondary education in the country to make recommendations concerning various problems related thereto.

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University Education Commission, 1948-49, recommended twelve years schooling at secondary and intermediate stage and said that secondary education being an important link in our educational system needed urgent reforms. It recommended middle standard of four years duration after primary education, two years high school or secondary school with three years schooling after middle standard and intermediate college of two years duration after matric (high school) education. The students were expected on completion of course, to take the final examination namely high school certificate examination or higher secondary certificate examination.

Bombay Government appointed a committee known as Bombay Government Integration Committee on Secondary Education, 1958-59. The committee recommended "we have given due consideration on secondary education and recommended that there should be only one statutory board for the entire state and that two or more than two boards are not likely to lead to that educational integration and homogeneity which will be in the best interests of the State."

The Secondary Education Commission, 1952-53 recommended the establishment of a Board of Secondary Education to deal with all aspects of education at the secondary stage and that it should be headed by the Director of Education with 25 members.

The Education Commission, 1964-66 recommended that a board of school education be established in each state in the country for effective academic control and supervision of examinations.

The Union Government through its resolution on National Policy on Education, 1967 had mentioned that it is necessary to coordinate, at the national level, the standards prescribed for attainment by the State Boards of School Education at these examinations. This should be done by a National Board of School Education to be established by the Government of India, which should indicate the national standard below which no state should ordinary fall. The National Board should also make arrangements to evaluate the standards actually attained on a school, District, State and national basis.

Functions

The Secondary Education Commission had recommended that "The Board will be generally possible :

1. To frame conditions for recognition of High School, Higher Secondary Schools and the qualifications of the teaching staff.
2. To appoint committees of experts to advise on the syllabi etc. for the different courses of study.
3. To frame courses of study on the recommendations of expert committees that may be appointed for the purpose.
4. To draw up panels of Question Paper Setters, Chief Examiners and Assistant Examiners.
5. To frame rules prescribing the minimum conditions for selection of Examiners, Assistant Examiners, etc. and generally to frame such other rules as may be necessary for its effective functioning.
6. Generally to advise the Director of Education when required on all matters pertaining to Secondary Education.

For conducting examinations there should be a sub-committee of the Board, consisting of not more than five members with Director of Education or senior members of the Directorate as convenor. This committee will be responsible for framing its scheme and conducting public examinations and declaring public results. The Chairman of Board, Director of Education will be executive head for implementing the recommendations of the Education Board.

National Policy on Education 1986 revised in 1992 says. (Clause 8.7).

Strengthening the role of the Boards of Secondary Education

8.7.1 The Boards of Secondary Education occupy a key position as they prescribe the courses of study, prescribe/recommend and, in some stages prepare textbooks and other instructional materials, lay down the standards of achievement of students, and pass judgement on the quality of performance of the learners at the secondary stage. A number of other institutions at the national and state levels such as the NCERT, the

NIEPA, the SCERTs, the Directorates of School Education, etc. also play an important role in strengthening secondary education. While the mutual interaction and collaboration among the various institutions working in the area of secondary education will be strengthened and institutionalized, the role and functions of the Boards will be redefined to enhance their ability to improve the quality of secondary education. This would require a greater autonomy for the Board and strengthening them in terms of their structure and composition.

8.7.2 The much needed examinations and evaluation reform will require the Boards of Secondary Education to play a greater role in improving and monitoring the quality of secondary education. The Boards will also be expected to play a central role in enforcing the norms with regard to academic and infrastructural facilities in secondary education.

8.7.3 A Task Force will be set up to study the existing position and status of the Boards throughout the country and to draw up a scheme to transform the Boards into effective instruments for bringing about qualitative improvement of secondary education. The Task Force would give due representation to the States/UTs, State Boards of Education and other institutions concerned. This Task Force will submit its report by March, 1993 and the States/UTs will be advised to implement its recommendations within the Eighth Plan Period.

The Task Force on the Role and Status of School Education Boards

The Task Force mentioned in the NPE above was appointed by the Government of India, Ministry of Human Resource Development, Department of Education. The Task Force submitted its report in February 1997. Its main recommendations are given below..

1. The Boards should discuss and deliberate on academic matters, in-service training, research, recognition of schools, vocational education, sports and co-curricular activities, computers, etc.
2. The Examination be conducted more professionally introducing transparency, integrity and comparability.
3. There should be continuous and comprehensive evaluation and emphasis on non-scholastic areas of learning also.
4. All the Boards must give priority for the training of teachers - for this exercise, NCTE may also be associated.
5. Textbooks in use today in different States are of uneven quality. It needs to be improved by involving talented, practising school teachers at the visiting stage.
6. Retraining of teachers should be shared equally by the Boards and the State Governments with some help from Centre.

Looking towards the Future : Action Points for Boards

Education is the key to progress and development for the human species. In all cultures and civilizations there are well established means of education for the young ones. The very survival of human beings depends on the educational process which helps in enabling the individual to cope with the reality around him/her. With the change of time or place, the concept and aim of education may change, the content and process may differ.

The system of education which is essential to the well being of any society, has three main elements - students, teachers, and curricula. How efficiently and how effectively this system will work depends on the cohesion between these three elements. If one of them is weak, inefficient or is not able to perform the role assigned, it can create havoc in the system.

School Education Boards can play a crucial role, directly or indirectly, in enabling these three elements to remain in shape. the National Policy on Education, 1986, revised in 1992, stresses on a broader academic role of Education Boards. So does the report of the Task Force to review The role and function of Education Boards in the country. The shift in thinking is that Boards should not be mere

examination bodies but they need to contribute substantially in educational improvement and maintaining academic standards. The concept of evaluation is also changing with stress on formative evaluation, which needs to be comprehensive as well as continuous rather than summative evaluation (Final/Terminal/Public/Board Examinations). By and by, the importance of Board examinations should and will diminish and with the advent of autonomy and decentralisation, and entrance tests for Colleges/Universities the principal function of Boards, i.e., conducting examinations may have to be done away with. however, that does not mean the Boards will lose their existence or even significance. They will continue to operate, but their role and function will change. They will, in fact, have to assume a pivotal role in monitoring standards of education and supervision of the teaching-learning process.

Surely, we are concerned with the Board's role in this endeavour to rejuvenate and invigorate the school system particularly at the Secondary Level. Below are given some suggestions how the Boards can do that.

Inspection/Academic Supervision

The Boards need to collaborate closely with the Departments of Education for stricter monitoring and constructive supervision of schools for quality improvement. There should be joint inspection teams comprising Board's officers as well as Department officers, including District/Block Level functionaries. There should be positive follow up action of such inspections leading to improvement in the school climate, physical infrastructure and the teaching-learning process.

Professional Development

Professional Development/Orientation/Motivational programmes for Teachers, Heads of Schools and other educational functionaries need to be more frequent and more intensive. The Board can collaborate with the Department, SCERT, DIETs and Training Colleges/Universities to conduct such programmes. The expenditure can be shared by the Department/SCERT and the Board. The money required for the participants should be spent by the Department/SCERT, while the Board can supplement by bearing the expenses of the Resource Persons.

The innovative programme of in-service education of teachers, heads of schools and other personnel in the field of education should be planned and executed by the Board. The individual courses for professional development need to be in subject content, pedagogical issues, current global issues, continuous and comprehensive evaluation, techniques of paper setting and marking of answer sheets, among other areas.

Motivational Activities

Meritorious teachers as well as students need to be awarded/rewarded. The criteria/ procedure for selecting such teachers and students should be made more objective and fair. The Department and the Board should work jointly for this purpose. A constructive, just scheme should be evolved by the two together and the sharing of expenditure, etc. can be mutually worked out.

Schools that show good results/provide allround, wholesome education may also be rewarded suitably.

Affiliation and Recognition

The criteria/procedure for granting affiliation/recognition to schools should be made more stringent, if qualitative improvement in education is to be brought about. Both the Board and the Department should work in close unison in this direction, so that only those schools/institutions that provide quality education are granted recognition/affiliation. If quality is to be maintained, commercialization of education has to be stopped, teaching shops have to be closed. Modalities have to be worked out mutually.

School Based Evaluation

The latest trend in thinking about evaluation has taken a shift towards continuous and comprehensive (school-based) evaluation. The Board and the Department should together evolve an effective, pragmatic scheme in this direction concerning both scholastic as well as non-scholastic aspects of pupil growth. The scheme, then, should be strictly implemented in all schools under close supervision of the Board/Department. of course, a training programme to orient all teachers to this scheme will also have to be drawn and eventually all teachers will have to be trained accordingly.

Reorientation and Extension of the Board's Function

Extension and reorientation of the function of the Board from mere conduct of examinations to educational improvement by providing academic orientation and dimension to its activities, as also initiation of Research and Development programmes for achieving this goal is imperative if the Board has to be instrumental and effective in improving quality of schools. The Boards needs to take up the following activities/programmes in this direction.

Improvement in Teaching-Learning

The Boards need to take steps in improving the teaching-learning process. This can be done in many ways, apart from regular inspection/supervision. Teachers and other personnel need to be reoriented to the changing educational scenario. The use of modern techniques and technology has to be introduced. The Board can set up a Resource Centre for this purpose.

Renewal of Curriculum and Text Books

The Board's curriculum and textbooks at all stages should be revised/modified periodically. There is a strong felt need that the curricula should be renewed and adapted according to the local/regional needs and aspirations.

Vocationalisation

Vocationalisation of Secondary Education is important in the present day social milieu. The Boards need to work in partnership with the Departments of Vocational Education or any other agency responsible for vocational courses in the state and review the vocational courses offered at the senior secondary stage by the Board. The Board should participate in the process of developing the vocational stream curriculum and make concrete contribution towards it. Pre-vocational courses at the secondary level should be developed and put into operation, selectively, on an experimental basis, in the initial stages. In this regard help can be sought from bodies like NCERT and Central Institute of Vocational Education, Bhopal.

Analysis of Question Papers and Training of Paper Setters/Examiners

There is a need to undertake a scientific analysis of the Board's question papers to identify shortcomings as well as strengths for further improvement in paper setting. Prospective paper setters/Examiners need to be trained/oriented.

Development of Question Banks

The development of Question Banks is thought to be a controversial issue by many. The issue may be discussed and task of developing Question Banks in all subjects at all levels may be considered as desirable, in the context of recent developments in educational thinking.

Analysis of Pupil Performance

Quantitative and Qualitative analysis of pupil performance (results) in the Board's examination will also help identify areas where remedial measures are required. The Boards should undertake this kind of analysis. This will help in enhancing the level of pupil performance as well as effectiveness of teachers.

Publications

The Boards should be able to bring out instructive and research based publications in the form of reports, monographs, etc. for the benefit of teachers, students and others involved in and concerned with the educational process.

Action Research

In order to build a research base on education in general and evaluation in particular, the Boards should encourage and promote action research at school level. Some funds can be earmarked for the same. The Board's Academic Officers can take up Research projects involving persons from the field.

Multi-media Resource Centre

The Boards, in order to sustain research and other academic activities, will need to establish a strong Multi-media Resource Centre. This, of course, includes a rich library and documentation centre.

Collaboration with National and International Organizations

In order to remain in touch with the latest in the field of education, the Boards have to come out of their comparative isolation and collaborate with international organizations and take up projects to improve the quality of education in schools.

Strengthening and Functional Autonomy

In order to achieve such ambitious goals as spelt out above the Academic wings of Boards will have to be systematically and substantially strengthened and provided functional autonomy in academic matters.

Staff and Equipment

Needless to say, the Academic wings of Boards have to be strengthened in terms of human as well as material resources. It goes without saying that more academic staff will be required. The wing should be a full-fledged, self-sufficient one.

A Computer Unit with skilled staff, solely for the use of the Academic wing will be beneficial. The officers of the Board, especially, the Academic staff should also be trained in the use of computers for optimal effectiveness.

Conclusion

We are entering into the 21st century, which will bring with it tremendous revolutionary changes in every field, including our life style, our society, our values, and so our learning style. We are moving

towards freedom in every sphere, where learning and its evaluation will no longer be determined by standard methods and tools. One board examination at the end of a course can not and will not be acceptable to individuals of the future. Also, individuals will demand quality education and this is where the boards will have to play their role and effectively help in developing and maintaining the standards of education. In order to fulfill this role successfully, they will have to equip themselves to come up to the expectations. For this, they will surely have to strengthen their Academic Wings as discussed above.

The DAV Movement in Education : An Appraisal

Anita Devraj[1]

Introduction

The DAV (Dayanand Anglo-Vedic) is the largest non-governmental organisation (NGO) active in the field of education in India. It has established and runs nearly 600 educational institutions in the country, with a few of them abroad. The DAV movement was initiated by the followers of Swami Dayanand Saraswati more than 100 years back, aimed at providing such educational opportunities to Indian youth, that preserves Indian culture while imparting western knowledge. The DAV has come a long way from the first DAV college established at Lahore (now in Pakistan) with the active support of Lala Lajpat Rai, the well known leader of the freedom movement in India.

The DAV is synonymous with the philosophy of the Arya Samaj propagated by Swami Dayanand, which has a large following in contemporary India. The DAV Movement has a place of honour in Indian history and DAV institutions are considered to be involved in imparting quality education with a tilt towards Indian values and culture. The importance of the DAV in the development of Indian education can never be overstated.

The paper will briefly trace the history of the DAV movement and then delve upon the present scenario of the organisation, its place in the field of education and then go on to make an attempt to assess the future trends in the Movement.

Swami Dayanand Saraswati and the Arya Samaj

Arya Samaj, a progressive faith, was founded in the last century by Maharshi Swami Dayanand Saraswati. Rarely in history has one single person come to be so totally identified with the social and moral revival of a nation as Maharshi Dayanand. In the words of Gurudev Rabindranath Tagore, "Maharshi Dayanand was the great path maker in modern India."

Maharshi Dayanand was not only a saint and reformer but also one of the greatest patriots of his time. He set before his countrymen the ideals of Swaraj and Swadeshi long before the Indian National Congress was founded and Mahatma Gandhi appeared on the Indian scene. He led a vigorous crusade against superstitions and other social evils like casteism, polygamy, child marriage, perpetual widowhood of woman and dowry system bedevilling the Indian community. He advocated complete eradication of untouchability, emancipation and education of women, widow remarriage and the adoption of Hindi as the lingua franca of the country. K.M. Munshi, while paying his tribute to Swami Dayanand remarked, "Dayanand Saraswati was the first great architect of modern India. In the Neo-Hinduism of today, in Indian nationalism and the methods of Mahatma Gandhi, we can clearly trace the influence of Swamiji's unerring vision and statesmanship."

In the words of Romain Rolland, "Dayanand transfused into the languid body of India his own formidable energy, his certainty, his lion's blood. His words rang with heroic power. He set an example of complete clearance of all the encumbering growth of privileges and prejudices by a series of hatchet blows. His social activities and practices were of intrepid boldness and he was the most vigorous force of the immediate and present action in India at the moment of re-birth and re-awakening of the national consciousness."

After renouncing the world, Swami Dayananda wandered from place to place for over fifteen years in search of truth and knowledge. During these years he came in contact with people of all ranks and castes, rich and poor, princes and priests. He was very unhappy to see that had degenerated, the so-called custodians of the Hindi traditions, learning and religion to a deplorable degree. He found Hindu society torn into numerous factions and castes. Dogmas, superistitions and inventions of the selfish

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priesthood had tarnished the fair name of the Hindu religion. So he took upon himself to bring to his people the noble traditions and beliefs of the ancient times. He decided to prepare himself to accomplish this task, and for this he practised yoga and studied the Vedanta philosophy. Moreover, he became most restless to find a real Guru after his own heart. In Virajananda of Mathura he found a guru of his aspirations in 1862 Virajananda made clear to him his (Dayananda's) mission in life. He taught him to dedicate his life to the dissemination of truth and to wage a war against the falsehood of contemporary distorted Hinduism and to bring back the true teaching of the Vedas.

Principles of the Arya Samaj

By establishing the Arya Samaj on April 10, 1985 in Bombay, Dayanand gave a definite shape to his movement. He declared the official creed to the Arya Samaj as.

1. All True knowledge comes from God. He is the cause of everything. Everything should be regarded as His.
2. To God alone worship is due, because He is knowledge, ALL - Truth, All-Beautitude, Incorporeal Just, Unbegotten, Almighty, Merciful, Unchangeable, Infinite, Immortal, Without a Beginning (*Anadi*) Incomparable, Omniscient, Eternal (*Sanatana*), Imperishable Holy, Supreme, Exempt from Fear, Lord of ALL.
3. It is the duty to every Arya, to learn, teach and preach the Vedas.
4. One should not be afraid of declaring untruth as untruth and truth as truth. The truth should be accepted and untruth renounced.
5. It is only after a thorough consideration of right and wrong that all actions should be performed, i.e. actions must conform to virtues.
6. The Arya Samaj wants to improve the physical, social and spiritual condition of humankind.
7. Love and justice should guide one's conduct. Due regard should be paid to one's merits.
8. Ignorance should be eradicated and knowledge disseminated
9. One can be happy only when others are happy, so one's prosperity should be considered as included into that of others.
10. In personal matters one may enjoy freedom to act but in matters which concern the general social well being, one should discard all differences.

Thus Swami Dayananda tried to base his creed on universally accepted axioms.

The Educational Philosophy of Dayanand

The Arya Samaj regarded education as one of the means for regenerating India and it wanted to base this education on the Vedic Traditions. Dayanand considered superstitions of dogmas as impediments to the forces of progress. So he decided to bring about a social regeneration on the basis of Vedas. A deep study of the Vedas had convinced him that it was wrong to believe that English education and Western ideas alone could give a person progressive ideals.

Character Building

Swami Dayanand laid great emphasis on character building by giving to the young, religious and moral training. He had no sympathy for a system of education which was divorced from this essential feature. He believed that formation of character was not possible if the students were not taught their duty to God and humanity.

Celibacy

Another essential feature of Dayanand's educational philosophy was his insistence of a long course of eighteen year's arduous study, study by enforcing a life of celibacy. For a student's life he

advocated Tapasya (penance), not indulgence; sacrifice, not selfishness; simplicity, not luxury; Dharma, not goodlessness; service, not enjoyment; duty, not pleasure. These indeed are high virtues of character which would ultimately build the national character.

Personal Hygiene

When we look to the daily routine which Swami Dayananda prescribed for a student in a school, we find that he considered practical personal hygiene as an essential part of education. In this respect he required the student to follow the routines of a disciple in the ancient Gurukula, such as, rising early in the morning, daily bath, prayer and practice in Pranayama (deep correct breathing) and doing most things outdoor. The health of our students is sure to be better if they are urged to acquire some of these excellent habits. Thus, the practical personal hygiene may be considered as the third essential feature of Swami Dayananda's scheme of education.

Democratisation

In his system of education Swami Dayananda regarded the rich and the poor, the prince and the peasant, the high and the low, the Brahmana and the so called lower castes, as equal. The state should provide free and universal education not only up to the primary stage, but for all the eighteen years, i.e. up to the highest stage. Thus he gives us a unique conception of the duty of the state for educating its citizens. The elimination of all the distinctions of caste and class and sex in matter of education and the advocacy of financing education at all the stages by the state are based on fundamental principles of democratic socialism. Thus democratisation of education was a notable contribution of Swami Dayananda to the educational philosophy in India.

Teacher-Student Relationship

The emphasis that Swami Dayananda laid on the intimate relationship between the teacher and the taught on the ancient Gurukula pattern may be regarded as the fifth unique feature of the educational system advocated by him. He wanted that the student should find in the teacher the love of the parents, and the teacher should accept the student as a member of his family to all intents and purposes. Thus the teacher is to bestow on the student all the loving care of a mother. This, indeed, is a noble example of teacher's duty towards his pupils.

Indian Languages

Swami Dayanand condemned the use of a foreign language as the medium of instruction. This may be accepted as another essential feature of his educational philosophy. Like a true educationist he rightly realised that a foreign language cannot be a suitable medium of instruction. While he opposed the use of a foreign language as a medium of instruction, he did not oppose Indians going abroad in quest of knowledge. He encouraged people to gather knowledge from all corners and sources. But at the same time he believed that a sound system of education must make a student feel proud of his language, his country, his cultural heritage, his nation's achievements. He was of the conviction that this could never be achieved if the Indian languages and Sanskrit were not given their proper place in the scheme of education in the counrty.

DAV - The Beginning

Since the dawn of human history, voluntary efforts in the field of education have won the respect of the people. Such efforts may be the work of individual teachers like Socrates or Aristotle or a Guru like Dronacharya, Vasishta or Vyas or still again of groups of individuals forming the church, muths or monasteries. Education has always received impetus at the hands of such inspired volunteers who pursued it throughout their lifetime as a mission and social commitment.

Maharshi Dayanand Saraswati had realised that the salvation lay in educating the masses. Amongst the ten principles which the Maharshi laid down for the guidance of humanity, eradication of ignorance and illiteracy through spread of education was the keystone. To achieve this cherished goal of the Maharshi a group of socially oriented people met in 1885 and formed the Dayanand Anglo-Vedic (DAV) College Trust and Management Society which was got registered in 1885 under the Societies Registration Act 1860 This was the beginning of the DAV movement which aims at stimulating the nation to keener endeavours in the task of national development through the medium of sound education

The Society established its first institution, DAV School at Lahore on June, 1, 1886 with Lala Hans Raj (later known as Mahatma Hans Raj) as its honorary Headmaster Mahatma Hans Raj's life has been a saga of dedicated service to the DAV College Trust and Management Society At the young age of twenty two he set a shining example of self-abnegation by offering his services in honorary capacity. Throughout his life he served the society without any remuneration or gain, with rare distinction, humality, dedication and missionary spirit.

Right from the very beginning the DAV Movement attracted a very large number of devoted and dedicated workers, enlightened beyond measure, with indestructible belief in Indian philosophy, culture and heritage. In the earlier years the Movement was nurtured, among others, by eminent publicmen and patriots of those times like Lala Lajpat Rai, Lala Lal chand, Bhai Parma Nand, Lal Dwarka Dass, Lala Durga Das, Principal Sain Dass, Bakshi Ram Rattan, Dr. Mukund Lal Puri, Bakshi Tek Chand and Shri Mehr Chand. The sapling that was planted in 1886 very soon blossomed into a huge DAV Organisation and within the span of a few years a chain for DAV Institutions sprang up to meet the demand for enlightened and progressive education based on the requirements of contemporary times with emphasis on Indian thought and cultural values.

In the words of Lala Lajpat Rai, the great freedom fighter and one of the founders of this school "This operation in 1886 commenced with less than forty thousand rupees, our success is mainly due to the spirit of self-sacrifice which has animated our workers". The DAV College, Lahore was started in June 1889 with less than a dozen students.

Principles

In one of his books on Arya Samaj, Lala Lajpat Rai records about the DAV College, Lahore, "I wish to say a word about the principles on which, it is understood that the college would be conducted. It was provided in the rules that management should be in the hands of elected representatives of such Arya Samajees as contributed to its found ..... no non Hindu has been associated with the management of the college. The second principle, though nowhere recorded, but generally accepted, was that the teaching should be exclusively done by Indians and there has been no exception on this point .... The third principle imposes on the managers the moral obligation of not seeking any monetary assistance from the Government. The fourth principle was to aim at giving free education.

He further explained the reasons for adopting these principles which were so practised not out of any hostility or antagonism to the Government or any community. The object was, "firstly, to try an experiment in purely indigenous enterprise, secondly, to develop a spirit of self-help and self-reliance in a community which these qualities had but by lapse of time and want of opportunities, had reached a low level." This was an endeavour to introduce a system of education which marked a major departure from the British models of teaching and learning This laid down the foundations of a national system of education with its focus on "Cultural Revolution" of India as envisaged by the great seer - Swami Dayanand.

Early Growth : Pre Independence Period

DAV Institutions continued to appeal to the imagination of the people Their popularity grew with every passing day. In a few years DAV schools were opened almost at most of the district and tehsil headquarters of Punjab and even beyond it. The number of DAV colleges was also increasing The DAV society also started an Ayurvedic College and Technical Schools and Institutions for girls By the turn of

the first quarter of the 20th century more than half of the educated Punjab was beholdened to the DAV colleges for the education it received."

This could be possible only on account of the selfless service rendered by the founders of the DAV. At the head of them stood a figure whose life symbolised the DAV movement. Remembering him Lala Lajpat Rai says, "But the one persons among the founders, whose name will always occupy the first place in respect of those who love the college, and whose name and life work stands or falls with this college, is Lala Hansraj... There may have been some others who have perhaps given the best in their life to this institution but he alone stands as one who has given his all for it. For full twenty eight years it has been the one object of his devotion...." It was due to the untiring efforts of the well wishers of the DAV that Lala Lajpat Rai recalled in 1914 "The feeble seedling planted in 1886, by even more feeble hands, has grown into a stately tree in the course of time and is at the present moment the biggest institution in Northern India and probably the second one in the whole of India, in point of numbers."

Lala Lal Chand, the founder President of the DAV Society said in 1894, "Luckily for us the foundations of the DAV Colleges are laid very broad and there is no difficulty whatever in incorporating and absorbing in it all that may be good from outside whether from the direction of a Gurukula or a National College or even a Government institution whichever in the struggle for existence might prove to be healthier, more useful and more needful for the best interest of the country..." Even Lala Lajpat Rai on his return from England in 1905, acknowledged, "I was much pleased when I saw in the West education imparted exactly on the same lines as were chalked out in the scheme of studies prepared by the founders of the DAV Colleges". It is due to readiness of the DAV Society to meet the demands of the time that it has remained abreast of all other private organisations in the field of national education.

Post-Independence Period

After initial set back due to the partition of the country in 1947, the DAV Society reorganised itself under the dynamic leadership of Dr. Mehr Chand Mahajan, ex-Chief Justice of India. He proved to be its man of destiny. DAV Schools and colleges were opened in various states and with the adoption of Public School System for imparting education through the English Medium (it received greatest thrust during the tenure of Lala Suraj Bhan, ex-Vice Chancellor of Kurukshetra and Punjab Universities and that of Prof Veda Vyasa as Presidents of the DAV Society) The Society has now a network of nearly 450 Public Schools alone apart from Degree and Post Graduate Colleges, aided Secondary and Senior Secondary schools, Colleges of Indian Medicine, Dental Colleges, Technical Institutes, Polytechnics, Ashram Schools, etc.

The DAV Today

The DAV which has become a household name, is no longer a single institution. It has acquired the depth and dimensions of an educational movement and "has throughout been working its way through virgin forests into Lands of promise from which the whole country will gather fruit in course of time," DAV institutions are the people's institutions. It is the people who support it, it is the people who guide its policy and it is therefore for the people that D.A.V. Institutions exist." While placing due emphasis on teaching of Indian cultural values, virtues of individual and national character, honesty of purpose, commitment to profession of their choosing, integrity of intention, faith in human and spiritual values, desire to serve humankind, love for all religions, these institutions have remained free from the poison of politics of the time, providing single mindedly" education to all students irrespective of caste, creed, location or sex."

The D.A V. College Trust and Management Society is now the biggest non-government educational organisation in India It covers broadly the entire spectrum of educational activity in the country. The Society is tending educational institutions blossoming in almost all the states from Jammu and Kashmir in the North to Tamil Nadu in the South, from Rajasthan in the West to Manipur in the East. These include:-

(i) Arts, Science and Professional Colleges;
(ii) Colleges of Education;

(iii) Public and Aided Schools;
(iv) A Growing chain of technical institutions including institutions of Management and Vocational Studies;
(v) An Ayurvedic and a Pharmacy College;
(vi) A Centenary Dental College;
(vii) A Polytechnic;
(viii) A Vedic Research Institute - the largest Sanskrit and Vedic Research Institute in the world.
(ix) A Maternity and General Hospital.

It is the national character and honest and selfless purpose of its workers that the D.A.V. Movement has earned appreciation of even those who are the worst critics of the private enterprise in education.

DAV : The Future

The DAV Institutions have a bright future as long as they continue to cherish the ideals on which the DAV Movement was founded, especially in the context of increasing acceptability of private enterprise in the country. Also because the government alone can not achieve the noble goal of 'Education for all' on its own; it needs the support of voluntary private efforts. Of course, the DAV institutions will flourish only if they remain free of gross commercialisation and dirty politics of vested interests within the organisation, which go against the very philosophy of the DAV movement.

It is movements like the DAV that have the answer to the manifold problems of modern life, in the wake of the widespread degeneration of values DAV institutions and the like will be the torch bearers in the right direction and provide value education in their institutions with the aim of developing individuals, the future leaders who have a humanitarian outlook and keep up the positive values of life and culture.

Impediments in Switching over to Novel methods of Teaching by Primary School Teachers

Venkatesha Murthy[1]
Neera Chopra[2]

Problem

Since the dawn of human era teaching-learning has undergone several layers of metamorphosis. Indeed, it needs to be changed as the needs of learners change. Though India got her independence in 1947, she has not yet been able to provide even the functional literacy to all her children. That does not mean efforts are not on. Many efforts are undertaken in India. One can be hopeful in the imminent future as the efforts towards Education for All has assumed more realistic and pragmatic objectives.

Inspite of all initiatives, one feels that the primary education scenario still needs to be overhauled as the gulf between the haves and have notes is becoming wider and wider. The socially, economically affluent children are in a more advantageous position than the socially economically weaker children. Education has been listed in the concurrent issue, meaning there by it is the concern of both the State and the Centre. Though Education has been the primary concern of any state, private/public schools are growing in leaps and bounds. With these, different management schools started operating with differing objectives, strategies, quality of education coupled with access to information world. It is evident in our society that public school children fare better than government school children. This has been substantiated by many researchers (Coleman, et al. 1982, 1982a.; Govinda and Varghese, 1992, 1993). Hence, there has been a great demand for public school education system in India. But again this public school caters to the needs of socially-economically advantageous children but not those who are socio-economically deprived. Thus we have parallel school management systems in India.

A serious issue of why public school children fare better than government school children needs to be addressed. One can see from his/her experience/observation/understanding that the very fundamental principles of selection of teachers, students and school complex in public schools and private schools vary. The more flexible administrative structure in recruitment, termination, promotion, enhancement of incentives, recognition of differential potentiality etc. are different in government schools as compared to public schools. Any private school will be very sensitive and conscious of it's outcome/products. They will lose demand if their products are not encouraging ones. Hence, all the presage and process variables have to be quite effective in order to have useful products.

As against the above, the government schools have their own reasons for being what they are, in terms of their effectiveness. Until recently, all attempts were geared towards only universal access and universal enrollment. With the World Declaration of Education for All (WDEFA) there has been a paradigmatic shift towards universal access, enrollment, retention and achievement. This emphasises the importance of not only the access and enrollment but also the retention/universal participation and achievement. The goals of EFA in India focuses on six main issues. They include, (1) expansion of early childhood care and development activities, (2) universalisation of elementary education, (3) drastic reduction in illiteracy, (4) provision of oportunities to maintain, use and upgrade education, (5) creation of necessary structures and settings in motion of processes which could empower women and make education an instrument of women's equality, and (6) improving the content and process of education (MHRD 1993). The Universalisation of Elementary Education(UEE) has been viewed as a composite programme of: **Access** to elementary education for all children upto 14 years of age; **Universal Participation** till they complete the elementary stage through formal or non formal education programmes; and **Universal achievement** at least of minimum levels of learning.

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Teacher Empowerment may be defined as enabling teachers with needed adequacies and competencies to effectively function to their best. By adequacies and competencies we mean that they need to be provided with all skills, attitudes, motivation, information about latest developments, national concerns/priorities, international concerns, etc.

Background

It has been emphasised in the National Policy on Education (MHRD 1992) that 'the status of the teacher reflects the socio-cultural ethos of the society; it is said that no people can rise above level of its teachers. The Government and the community should endeavour to create conditions which will help motivate and inspire teachers on constructive and creative lines. Teachers should have the freedom to innovate, to devise appropriate methods of communication and activities relevant to the needs and capabilities of and concerns of the community'.

Added to the above it states (part III, 3.2), 'the concept of a National System of Education implies that, up to a given level, all students, irrespective of caste, creed, location or sex, have access to education of a comparable quality. To achieve this, the government will initiate appropriately funded programmes. Effective measures will be taken in the direction of the Common School System recommended in the 1968 Policy.

To promote equality, it will be necessary to provide for equal opportunity to all not only in access, but also in the conditions for success' (3.2).

It further states, 'The Constitutional Amendment of 1976, which includes Education in the Concurrent list was a far-reaching step whose implications-substantive, financial and administrative-require a new sharing of responsibility between the Union Government and the States in respect of this vital area of national life. While the role and responsibility of the states in regard to education will remain essentially unchanged, the Union Government would accept a larger responsibility to reinforce the national and integrative character of education, to maintain quality and standards (including those of the teaching profession at all levels,.. .....throughout the country').

Efforts to introduce and implement reforms aimed at improving the quality and efficiency of schooling have yielded disappointing results. A common reason cited for their failure is teacher's resistance to the innovations being proposed (Chapman. 1996)

According to Chapman (1996), Teachers' resistance to innovations be attributed to the following. (a) Teachers don't see the problem which exists as teacher problems. (b) Teachers resist innovations that increase the complexity of their work life (Chapman and Snyder, 1992.; Snyder, 1990). (c) The organisational structure of the educational system operate as "steep hierarchies" . Steep hierarchies are based on the assumption that 'thinking' will be done at the top of the organisation, 'doing' at the bottom.

Teachers' lack of enthusiasm for new ideas and methods is interpreted as teacher resistance when the real problem is expenditure of energy it takes for each local network to separately consider a new idea without the benefit of wider peer group encouragement and support. Inertia often prevails, not because a new idea is bad, but because it takes a lot of energy and courage to adopt the change in the face of opposition or indifference from peers. Thus, there is a great need for motivation to change for the better. This could be intrinsic or extrinsic in nature. Unless teachers are empowered with the needed adequacies and competencies to shift to alternate methods of teaching different subjects in order to maximise the teaching-learning process leading to the desired level of product, the school efficacy cannot progress.

On the other hand, there are a few studies, though there are not very many studies on private and government school differences in India (Varghese, 1996),which focus on the government and public school differences where unaided private schools performed better than aided schools and both these types of private schools performed better than government schools on Hindi language and mathematics achievement of grades IV and V in the sample schools of Madhya Pradesh. Varghese's(1995) study also showed that private schools have a marginal but statistically not significant advantage over government schools. Further, the children belonging to the poorer social background and with less educated parents are not in position to compensate for the losses made and hence they lag behind in the learners' achievement. It implies that if teaching and learning activities are better organised the above deficiency can be compensated. It has also been found that organisation of teaching-learning activity seems to be a

significant variable both in terms of effect size and statistical significance. It means, there is an adequate scope for improving learner achievement through a better organisation of classroom practices and close monitoring of teaching activities. It is evident from the above that there exists no significant trend of differences between the government and the public schools under all circumstances.

There are evidences which indicates that different alternate methods/novel methods can produce better results in terms of quality process and product (Panda, 1996. ; Ramas, In, Glimpses 1996. ; Lockheed and Longfield, 1991. ; Bashir, 1992. ; Bondi, 1991. ; Agnihotri, et al;, 1994. ; Chattopadhyaya, et al. , 1994. ; Kishore, 1994. ; and Padhi, 1996).

There are also evidences which have indicated that teacher self-efficacy produce a 'generative capability' that enables teachers to construct new teaching strategies and increase their level of efforts. These increased efforts on the part of the teachers should enhance their competence (Rowan and Cheong, 1992). According to Ashton and Web, (1996) teaching efficacy is personal beliefs about capabilities to help students learn. Teachers having low self-efficacy would avoid planning activities which they believe that are beyond their capabilities. They may also not try teaching contents in innovative ways which students can easily understand and achieve mastery (Singhal and Sharma, 1996).

Indeed, teachers are influenced by their own personal characteristics and aspirations, social system and communication system. In their own way they try to improve the system by solving their day to day educational problems. Therefore, it is desirable that new practices tried out by teachers be promoted and disseminated. Sharing of results of knowledge and their implications should be encouraged. Linkages between the educational research and institutional practices such as the teaching-learning process, classroom management, value inculcation, creative thinking, scientific temper etc. are important for improving curriculum and its transaction (Glimpses, 1996). In the above backdrop the investigators have attempted to study the teacher change-proneness towards novel methods of teaching, as well as their attitude towards teaching, among the government and the public school teachers of West Delhi.

Research Questions

The investigators have tried to answer the following research questions in the present study.

On teacher change proneness towards novels methods;

(1) do teachers belonging to different age groups differ?
(2) do teachers belonging to different lengths of service/experience differ?
(3) do government school teachers differ from public school teachers?
(4) what is the relationship of teacher attitude among;
   (a) all teachers irrespective of managements?
   (b) all government school teachers?
   (c) all private school teachers?
(1) do teachers belonging to different levels of teacher attitude differ with specific reference to different areas?

Objectives

(i) To study whether teacher belonging to different age groups differ on their teacher change proneness towards novel methods of teaching.
(ii) To study whether teachers belonging to different lengths of service/experience differ on their teacher change proneness towards novel methods of teaching.
(iii) To compare the government school teachers with public school teachers on their teacher change proneness towards novel methods of teaching.
(iv) To study the relationship between teacher attitude and teacher change proneness towards novel methods of teaching among teachers belonging to different management schools.
(v) To study whether teachers belonging to different levels of teacher attitude differ on different areas of teacher change proneness to novel methods of teaching.

Hypotheses

The following null hypotheses were formulated and tested in the present study

(1) The teachers belonging to different age groups don't differ on their teacher change proneness towards novel methods of teaching.

(2) The teachers belonging to different lengths of service/experience don't differ on their teacher change proneness towards novel methods of teaching.

(3) The government school teachers don't differ from public school teachers on their teacher change proneness towards novel methods of teaching.

(4) There is no relationship between teacher attitude and teacher change proneness towards novel methods of teaching among teachers belonging to different management schools

(5) Teachers belonging to different levels of teacher attitude don't differ on different areas of teacher change proneness to novel methods of teaching

Methodology

The sample of the study comprised 124 primary school teachers drawn from 15 schools covering 8 government schools and 7 public schools. Both the management schools had equal representation of 62 teachers. The teachers ranged in their age from 23 years In terms of experience/service, teachers varied from less than one years to 39 years, with a mean experience of 10.3 years and SD of 7 8 years

The tools used in the present study include, Neera Teacher Change-Proneness Scale (1997), developed by Mrs. Neera Chopra and Murthy, C.G V., Teacher Attitude Inventory (1971) developed by S P Ahluwalia and a personal Data Bank.

The collected data in the present study were treated using mean, median, mode, SD, 't' Test, one way Analysis of Variance, multiple range test and correlations.

Results and Discussions

On verifying various null hypotheses, the following results emerged.

Ho.1. The teachers belonging to different age groups don't differ on their teacher change proneness towards novel methods of teaching.

To test the above hypothesis, the teachers who ranged in their age from 23 years to 59 years were divided into three categories.

Sl. No.	*Age groups*	*Category*	*Frequency*
1	23-31 Years	Young teachers	42
2.	32-40 Years	Middle age teachers	42
3.	41-59 Years	Senior age teachers	40

Their scores on teacher change proneness scale was subjected to one way analysis of variance which yielded the following.

Table 1 : F ratio of three age group teachers on their teacher change proneness scores.

Source	*DF*	*Sum of square*	*Mean square*	*F Ratio*	*F Prob.*
Between Groups	2	2052.98	1026.49	1.32	0.27 NS
Within Groups	121	94178.26	778.33		
Total	123	96231.25			

NS not significant

It is evident from Table 1 that the teachers on the whole, belonging to different age groups didn't differ significantly on their teacher change proneness. Therefore, the null hypothesis is accepted. It implies that the age and teacher change proneness are disjointed variables. This finding needs to be considered carefully as this has implication for programmes for teachers irrespective of the age who need to shift to different methods of teaching as against traditional method of teaching. This finding can be a useful tip for all professionals in education who are interested in bringing many need based changes in the system. Hence, age is not a barrier for shifting over to novel methods of teaching.

Ho. 2. The teachers belonging to different lengths of service/experience don't differ on their teacher change proneness towards novel methods of teaching.

As regards the experience/length of service, teachers varied from less than one year to 39 years of teaching. They were grouped into three categories.

Sl. No.	*Experience*	*Category*	*Frequency*
1.	1 to 6 years	Fresh teachers	43
2.	7 to 11 years	Moderately experienced	38
3.	12 to 39 years	Senior teachers	43

In order to see whether those three category teachers differed significantly on their teacher change proneness scores, they were subjected to one way analysis of variance which yielded the following.

Table 2 : F ratio of three categories of experienced teachers on their teacher change proneness scores.

Source	*DF*	*Sum of Squares*	*Mean Squares*	*F Ratio*	*F Prob.*
Between groups	2	1864.16	932.08	1.19	0.30 NS
Within groups	121	94367.08	779.89		
Total	123	96231.25			

NS Not significant.

An analysis of Table 2 indicates that even the varying levels of experience didn't account for any significant difference on their teacher change proneness. Hence the null hypothesis is accepted. It means the experience also has nothing to do with teacher change proneness. So, like age factor, even the experience factor is not a barrier for shifting over from traditional method of teaching to novel methods.

Ho. 3. The government and public school teachers don't differ on their teacher change proneness towards novel methods of teaching.

The government school teachers and public school teachers had equal representation of 62 subjects in the study. To test the above hypothesis, the mean scores of both the groups were subjected to critical ratio which yielded the following.

Table 3 : Critical Ratio of government and public school teachers on their teacher change proneness.

Schools Groups	*N*	*Mean*	*SD*	*SE of mean*	*CR*	*Sig. evel*
Public Schools	62	63.13	23.52	2.98	6.98	0.001**
Government Schools	62	33.37	23.97	3.04		

** Significant beyond 0.001 level

The above table indicates clearly that the teachers of government schools and public schools differed significantly in favour of the public schools as the mean of the public school teachers is higher than the government school teachers. This finding needs to be examined further as the change proneness among the government school teachers is very less, which calls for corrective measures to make the government school teachers more amenable to shift to different methods of teaching by which the achievement/performance of the government school children are also raised. As such, there are already studies which have shown that the performance of government school children are much below the private/public schools (Varghese, 1996).

Ho. 4. There is no relationship between teacher attitude and teacher change proneness towards novel methods of teaching among teachers belonging to different management schools.

To test the above hypothesis, the scores of all 124 teachers belonging to government and public schools on teacher attitude inventory were considered along with their scores on teacher change proneness and subjected it to coefficient of correlation which yielded the following results.

Table 4 : Level of significance of correlation of all teachers, teachers of two management groups on their scores of teacher change proneness and teacher attitude

School Management	*N*	*Correlation coefficient*	*Significance Level*
Private	62	0.011	NS
Government	62	0.499	0.001**
All	124	0 442	0 001**

NS Not significant

** Significant beyond 0.001 level

An analysis of Table 4 indicates that there is no significant relationship between the teacher attitude scores and the scores on teacher prone scale among the public school teachers, while among the government school teachers and all teachers when taken as a whole, there are significant correlations

This suggests that among the government teachers and all teachers as a whole, the teacher attitude and teacher change proneness are directly and significantly related. It means the more the better attitude the better is their teacher proneness scores among both the groups. But among the public school teachers they are found to be insignificantly correlated. If one looks back for the earlier finding that the government school teachers differed from the public school teachers significantly in favour of the public school teachers, one can associate this finding by way of saying that irrespective of the attitude of teachers towards teaching profession, they are more amenable to shift to novel methods of teaching as compared to government school teachers.

Ho. 5. Teachers belonging to different levels of teacher attitude, don't differ on different areas of teacher change proneness to novel methods of teaching.

To test the above hypothesis, the teachers grouped into three categories as low, average and high levels based on their percentile scores. The distribution of teachers on teacher attitude are as under:

Sl. No.	*PR Scores on TAT*	*N*	*Categories*	
1.	1-31	41	Low Teacher Attitude	(LTA)
2.	32-65	42	Average Teacher Attitude	(ATA)
3.	67-98	41	High Teacher Attitude	(HTA)

To test the significance of difference between the teachers belonging to different levels of teacher attitudes, on teacher change proneness, each of the area score were subjected to one way analysis of variance. The obtained results are as under:

Table 5 : F ratio of teachers belonging to three levels of teacher attitude on personal Interest(PI) scores of teacher change proneness scale.

Source	*DF*	*Sum of squares*	*Mean squares*	*F Ratio*	*F Prob.*
Between Groups	2	1642.66	821.33	4.66	0.01**
Within Groups	121	21336.07	176.33		
Total	123	22978.73			

** Significant at 0.01 level

An analysis of the above indicates that the three groups of teachers on different levels of teacher attitude differed significantly on their Personal interest scores of teacher change proneness. Hence, the null hypothesis is rejected. When the mean scores of all the three groups were further subjected to multiple range tests, it was found that the groups 1 and 3 differed significantly. It means that the teachers of low and high attitude groups have significantly differed on the PI area of Neera Teacher Change Proneness Scale.

Table 6 : F ratio of teachers belonging to three levels of teacher attitude on perception(P) scores of teacher change proneness scale.

Source	*DF*	*Sum of squares*	*Mean squares*	*F ratio*	*F Prob.*
Between Groups	2	4096.19	2048.09	3.63	0.05*
Within Groups	121	68294.35	564.04		
Total	123	72345.54			

* Significant at 0.05 level

An analysis of the above indicates that the three groups of teachers on different levels of teacher attitude differed significantly on their perception scores of teacher change proneness. Hence, the null hypothesis is rejected. When the mean scores of all the three groups were further subjected to multiple range tests, it was found that the groups 1 and 3 differed significantly. It means that the teachers of low and high attitude groups have significantly differed on the perception area of Neera Teacher Change Proneness Scale.

Table 7 : F ratio of teachers belonging to three levels of teacher attitude on Awareness (A) scores of teacher change proneness scale.

Source	*DF*	*Sum of squares*	*Mean squares*	*F ratio*	*F Prob.*
Between Groups	2	5044.58	2522.29	4.11	0.01**
Within Groups	121	74088.66	612.30		
Total	123	79133.25			

** Significant at 0.01 level

An analysis of the above indicates that the three groups of teachers on different levels of teacher attitude differed significantly on their Awareness scores of teacher change proneness. Hence, the null hypothesis is rejected. When the mean scores of all the three groups were further subjected to multiple range tests, it was found that the groups 1 and 3 differed significantly. It means that the teachers of low and high attitude groups have significantly differed on the A area of Neera Teacher Change Proneness Scale.

Table 8 : F ratio of teachers belonging to three levels of teacher attitude on Acceptability (AC) scores of teacher change proneness scale.

Source	*DF*	*Sum of squares*	*Mean squares*	*F ratio*	*F Prob.*
Between Groups	2	481.02	240.51	3.65	0.05**
Within Groups	121	7965.06	65.82		
Total	123	8446.08			

** Significant at 0.05 level

An analysis of the above table indicates that the three groups of teachers on different levels of teacher attitude differed significantly on their Acceptability scores of teacher change proneness. Hence, the null hypothesis is rejected. When the mean scores of all the three groups were further subjected to multiple range tests, it was found that the groups 1 and 3 differed significantly. It means that the teachers of low and high attitude groups have significantly differed on the AC area of Neera Teacher Change Proneness Scale.

Table 9 : F ratio of teachers belonging to three levels of teacher attitude on Organisational Support (OS) scores of teacher change proneness scale.

Source	*DF*	*Sum of squares*	*Mean squares*	*F ratio*	*F Prob.*
Between Groups	2	13194.18	6597.09	10.76	0.01**
Within Groups	121	74171.83	612.99		
Total	123	87366.02			

** Significant at 0.01 level

An analysis of the above table indicates that the three groups of teachers on different levels of teacher attitude differed significantly on their Organisational Support (OS) scores of teacher change proneness. Hence, the null hypothesis is rejected. When the mean scores of all the three groups were further subjected to multiple range tests, it was found that the groups 1 and 2, 1 and 3, and 2 and 3 differed significantly. It means that the teachers of all attitude groups have significantly differed on the OS area of Neera Teacher Change Proneness Scale.

Table 10 : F ratio of teachers belonging to three levels of teacher attitude on Leadership and Direction (LD) scores of teacher change proneness scale.

Source	*DF*	*Sum of squares*	*Mean squares*	*F ratio*	*F Prob.*
Between Groups	2	11073.23	5536.61	14.17	0.01**
Within Groups	121	47254.60	390.53		
Total	123	58327.83			

** Significant beyond 0.01 level

An analysis of the above table indicates that the three groups of teachers on different levels of teacher attitude differed significantly on their Leadership and Direction Scores of teacher change proneness. Hence, the null hypothesis is rejected. When the mean scores of all the three groups were further subjected to multiple range tests, it was found that the groups 1 and 3, and 1 and 2 differed significantly. It means that the teachers of low and high attitude groups and low and average attitude groups have significantly differed on the LD area of Neera Teacher Change Proneness Scale.

Table 11 : F ratio of teachers belonging to three levels of teacher attitude on Confidence/Diffidence (CD) scores of teacher change proneness scale.

Source	*DF*	*Sum of squares*	*Mean squares*	*F ratio*	*F Prob.*
Between Groups	2	3141.75	1570.87	5.54	0.01**
Within Groups	121	34292.46	283.40		
Total	123	37434.21			

** Significant at 0.01 level

An analysis of the above table indicates that the three groups of teachers on different levels of teacher attitude differed significantly on their Confidence/diffidence scores of teacher change proneness. Hence, the null hypothesis is rejected. When the mean scores of all the three groups were further subjected to multiple range tests, it was found that the groups 1 and 2, and 1 and 3 differed significantly. It means that the teachers of low and average as well as low and high attitude groups have significantly differed on the CD area of Neera Teacher Change Proneness Scale.

Table 12 : F ratio of teachers belonging to three levels of teacher attitude on Fear (F) scores of teachers change proneness scale.

Source	*DF*	*Sum of squares*	*Mean squares*	*F ratio*	*F Prob.*
Between Groups	2	5893.65	2946.82	4.37	0.01**
Within Groups	121	81495.34	673.51		
Total	123	87389.99			

** Significant at 0.01 level

An analysis of the above table indicates that the groups of teachers on different level of teacher attitude differed significantly on their Fear scores of teacher change proneness. Hence, the null hypothesis is rejected. When the mean scores of all the three groups were further subjected to multiple range tests, it was found that the groups 1 and 3 differed significantly. It means that the teachers of low and high attitude groups have significantly differed on the F area of Neera Teacher Change Proneness Scale.

Table 13 : F ratio of teachers belonging to three levels of teacher attitude on No. of Children (c) scores of teacher change proneness scale.

Source	*DF*	*Sum of squares*	*Mean squares*	*F ratio*	*F Prob.*
Between Groups	2	4011.58	2005.79	2.84	0.06 NS
Within Groups	121	85395.60	705.74		
Total	123	89407.18			

NS: Not Significant

An analysis of the above table indicates that the three groups of teachers on different levels of teacher attitude didn't differ significantly on their No. of Children scores of teacher change proneness. Hence, the null hypothesis is accepted. This implies that the teachers belonging to different levels of teacher attitude don't differ on perceiving number of children as either facilitator or an impeder of teacher change proneness factor.

Table 14 : F ratio of teachers belonging to three levels of teacher attitude on Syllabus/Evaluation System (SES) scores of teacher change proneness scale.

Source	*DF*	*Sum of squares*	*Mean squares*	*F ratio*	*F Prob*
Between Groups	2	808.14	404.07	0.85	0.42 NS
Within Groups	121	57189.40	472.63		
Total	123	57997.54			

NS Not Significant

An analysis of the table 14 indicates that three groups of teachers on different levels of teacher attitude didn't differ significantly on their Syllabus and Evaluation scores of teacher change proneness Hence, the null hypothesis is accepted. This implies that the teachers belonging to different levels of teacher attitude don't differ on perceiving syllabus and evaluation as either facilitator or an impeder of teacher change proneness factor.

Table 15 : F ratio of teachers belonging to three levels of teacher attitude on Pressure from Community (PC) scores of teacher change proneness scale

Source	*DF*	*Sum of squares*	*Mean squares*	*F ratio*	*F Prob.*
Between Groups	2	3052.79	1526.39	1.99	0.14 NS
Within Groups	121	92504.32	764.49		
Total	123	95557.12			

NS Not Significant

An analysis of the above table indicates that the three groups of teachers on different levels of teacher attitude didn't differ significantly on their Pressure from community scores of teacher change proneness. Hence, the null hypothesis is accepted This implies that the teachers belonging to different levels of teacher attitude don't differ on perceiving Pressure from Community as either facilitator or an impeder of teacher change proneness factor.

Table 16 : F ratio of teachers belonging to three levels of teacher attitude on teacher change proneness scores

Source	*DF*	*Sum of squares*	*Mean squares*	*F ratio*	*F Prob.*
Between Groups	2	20930.95	10465.47	16.81	0.01**
Within Groups	121	75300.29	622.31		
Total	123	96231.24			

** Significant beyond 0.01 level

An analysis of the above table indicates that the three groups of teachers on different levels of teacher attitude differed significantly on their scores of teacher change proneness. Hence, the null hypothesis is rejected. This implies that the teachers belonging to different levels of teacher attitude do differ on all areas of teacher change proneness scale. When the mean scores of different groups were subjected to multiple range tests, it was found that the groups 1 and 2 as well as 1 and 3 differed significantly. It implies that the low and average groups differed significantly on their teacher change proneness scores along with the teachers of low and high groups.

Conclusions

The analysis of the study leads to the following conclusions.

(1) The teachers belonging to different age groups didn't differ significantly on their teacher change proneness. Hence, age is not an impediment for change.

(2) The teachers having different lengths of experience also didn't differ on their teacher change proneness. Hence, experience is not an impediment for change.

(3) The teachers belonging to two different management schools differed significantly in favour of the public school teachers on their teacher proneness scores. This implies that the public school teachers are more akin to change than the government school teachers. This calls for removing the rigidity/resistance to change among the government school teachers.

(4) Teachers (inclusive of public and government) and government school teachers have shown a linear relationship between their attitude towards teaching and their change proneness towards novel methods of teaching While, the public school teachers have not got the significant relationship between the two variables. It means that the public school teachers irrespective of their attitude towards teaching, are inclined towards shifting over to novel methods of teaching.

(5) As regards different areas of teacher change proneness to novel methods of teaching, it was found that on all areas, i.e. Personal Interest (PI), Perception (P), Awareness (A), Acceptability (AC), Organisational support (OS), Leadership and Direction (LD), Confidence/Diffidence (CD), and Fear (F) the three categories of teachers who have shown different levels of attitude towards teaching differed significantly. But on other three areas, i.e. No of Children (c), Syllabus/Evaluation System and Pressure from Community (PC) didn't differ significantly.

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Developments in Education : Education for All

Yash Karan Singh[1]

Introduction

"So long as little children are allowed to suffer keeping them deprived of getting primary education, there is no true love and happiness in the world." Deriving inspiration from these lines, I wish to express my concern that if we want to see India a place of true happiness and prosperity, we will have to translate into reality the dream of providing compulsory primary education to all children who would lead the nation in the race of 21st century and would play a decisive role in setting the future of our country.

India has already completed 50 years of her independence on 15th August 1997 and it has once again reminded us of the pledges which were made by our first Prime Minister Pt Jawahar Lal Nehru on the eve of 15th August 1947. The national political leadership after independence had realised that education provides the foundation for real national progress Consequently, they incorporated in the Republican Constitution the directive that the state "shall endeavour to provide for free and compulsory education for all children until they complete the age of 14 years, and that it must do this within a period of ten years from the commencement of this constitution."

India is a democratic country and by providing compulsory education upto a particular stage, Indians can be expected to become good and able citizens and it is only then the cherished dream of successful democracy can be achieved in India.

Primarily, education is concerned with human resources and its development It is, therefore, rightly said, "A great country is that which has the greatest men and women." Swami Vivekanand defined education "as the manifestation at perfection already in man". More broader definition of education is given by John J. Mauriel-

"To provide opportunities for the development of basic , cognitive, psychological, athetic, aesthetic, and social knowledge at skills and the relevant attitudes and motivation as required by its identified groups of clients so that these clients may learn to function effectively as productive learning and caring citizens of a democratic society in a dynamic and changing world environment."

Education and society are two great living organisations where change is inevitable and also necessary.

Developments in Indian Education During The Past 50 Years

After independence, central and state governments were giving more attention for education in the form of national progress and security of a nation. Many commissions and committees especially University Education Commission (1948-49) and Secondary Education Commission (1952-53) are of significant importance because it reviewed the educational re-constructions Steps were taken up in view of the recommendations of theses commissions and under the leadership of Pt. Jawahar Lal Nehru after passing the science policy it was emphasised on the development of science, craft-science and scientific research. Under third fifth year plan it was felt that the educational system should be reviewed at a great length and as such Education Commission (1964-66) was appointed to give its recommendations on national educational position and educational development at all levels on the basis of general principles and policies. It was decided that for the economic and cultural development, national integration and for realising the goal of socialist society there was an urgent need to reconstruct the basics of education.

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Free and compulsory education was promised upto the age of 14 years and provision was made under article 45 of the Constitution of India. Wastage and stagnation was to be lowered down and all the students who were registered had to complete the primary education successfully.

National Policy of Education, 1968, played a very important role in the history of Indian education after independence. Its aim was to strengthen the national progress, citizenship, culture and national integration. Emphasis was laid on the all-round restructuring of education policy so that level of education might be raised at every level. Science and technological education was given more importance. Emphasis was also laid to develop a relationship between education and life and to develop moral values.

After its implementation lot of progress and expansion of education was made in the country. There was lot of improvement in educational facilities, uniform education 10+2+3 pattern of education had been implemented in most of the states. School curriculum was prepared to impart uniform education to both boys and girls. Science and Maths were made compulsory and work-experience was given due importance, for post-graduate education and research, centre for higher studies were opened up. In fact, to impart education, to bring changes in the level of education, expansion of education, utility and to develop the economic resources were some of the important areas which could not be fulfilled.

All efforts had been made to increase meaningful cooperation between the centre and states in accordance with Constitutional amendment. Education of physically handicapped was also made in the society so that they should have also felt confident and their progress should have been like a common man.

Realising that standardization of education could play in attaining self-reliance in all sectors, the government of India decided to assign the task to Kendriya Vidyalaya as a few of its many steps with a view to generate the requisite standards among the urban and rural children of the society and place them on a similar platform.

Child is the father of man. Children are assets of our nation. In order to ensure all-round physical, mental and social development of children, it was decided under National Policy on Children, 1974 that:

(a) those children who were not able to get formal school education would be given education in other way depending upon their necessity.
(b) physical education, games and sports, entertainment, cultural and scientific activities would be promoted.
(c) children of SC, ST and weaker sections of society would be given equal opportunity for education.
(d) those children who were delinquents would be given opportunity for becoming good citizens.
(e) children under the age of 14 years would not be involved in any rigorous kind of physical work.

For realising the above goals, assistance of voluntary organisations, educational institutions, citizens, state governments and local bodies was sought for.

New Policy of Education (1986) was reviewed during (1990-92) by

(a) Acharya Rammurthy Committee (1990) and
(b) N Janardan Reddy Committee (1992)

and necessary amendments were made. On the basis of these recommendations, Programme of Action (1992) was chalked out. It was decided as under:

(a) All care should be taken for effectiveness and accountability at every level of educational planning and administration. Completion of assigned job should be given importance than the allocation of expenditure in budget. Non-stop expansion of sub-standard institutions must be stopped. All state governments should chalk-out plan of action keeping in view national policy of education and
(b) Elementary education must be made accessible to all. In the eighth plan, decentralisation of educational planning has been approved. District-wise account of educationally backward and

also where literacy mission is successful, has been maintained. A new scheme involving districts was implemented to make primary education available for all. Steps have also been taken to raise the women literacy rate in those districts where it is below the national average. Reconstituted scheme of operation black-board has also been implemented to develop school facilities upto upper primary level. Efforts are being made to ensure the attainment of cent percent literacy.

While implementing univeralisation of primary education, education of girls was taken on priority basis. Steps are being taken up to increase the enrollment of girls in science, vocational, technical and commerce streams.

Above said provisions have been made under the eighth plan (1992-97). Efforts are being made in three directions viz. Primary education, non-formal education and adult literacy to attain the goal of total literacy. Following efforts have been made:

(a) to give importance to achievement and also to enrolement of students for continuance of their studies;
(b) to make education accessible to girls and other sections of society where even minimum facilities are not available ;
(c) pre-service and in-service education of teachers;
(d) improvement in effective productivity of schools;
(e) provision of education through non-formal and distance-education programmes;
(f) to catalyse the growing demand of education;
(g) to take assistance of local bodies in educational planning and management; and
(h) to ensure social services e.g. child-care, nutrition, primary infant education, primary education and health.

Present Position of Indian Education

Since literacy is the antonym of illitercy, so literacy can be equated with that of primary school education. In fact, in order to analyse the growth and progress of education in India, we will have to review the progress of primary education right from class I to V alongwith evaluation of secondary education.

On the basis of government data available, 551 thousand primary schools were functioning in India in 1989-90. If it is assumed that these schools were sufficient for all the children between 6 years or above, it could have been possible, if population could have been stable. Conversely, population rate was increasing at the rate of 48,000 children per day. Thus, in order to impart education to these ever increasing lot of children, country could have opened up 90,000 additional primary schools every year. But on the basis of government data available 581 thousand schools were opened up till 1994-95 as against 551 thousand in 1989-90. In other words, only 6000 schools were opened up per year when there was necessity of opening 90,000 schools per year.

If a child is not getting an opportunity to go to school he himself turns out to be a child labourer. There are 10 millions child labourers working presently in India. It is regretted that after 50 years of independence provision laid down under Article 45 of Indian Constitution (1950) could not be fulfilled so far.

The grand new education policy 1985-86 promised "mass education a reality and transform this country.....not in a decade but in a matter of few years". But not a few years but a decade and a few years later we could not fulfill the objectives. According to a UNDP report, there were 45 milllion children out of primary schools in 1995. According to a NCAER survey, however, the figure is 55 million. Add to this the children in the 11-14 age group as well as those who enrol but drop out before reaching class V and the non-school child population comes out to be 150 million. And what of the 130 million children in the 6-14 age group who are said to be receiving primary education? According to the fifth All India Education survey conducted by NCERT, these children go to schools barely 50% of which have four walls and a roof, the rest study in sheds or tents or open spaces. Another authoritative survey tells us that -there are thousands of schools which are not only without pucca buildings but without any teaching-aids, without even black-board, lack of drinking- water facilities, under unhygienic conditions and many which

have black-boards but no chalk. It also tells us that there are number of schools without teachers or with teachers who have not studied even till class X, a number of schools, which, for lack of space and teachers, club all children in 6-14 age group in one class. Is it any wonder, as the survey found out, that these schools have children who at the end of two years of schooling cannot identify any letter in the alphabet, and at the end of three years can not do simple addition and subtraction.

Single most important reason why India is counted among the 40 most backward countries in the world is our illiteracy. India can not have progress, human development, prosperity or even dreams of prosperity as long as literacy rate is 52 percent.

There has been wide-spread expansion of education after India attained independence. Literacy rate which was 18.33% in 1951 rose to 52.21% in 1991. During this span of time literacy rate for men went up to 64.13% against 27.16% and for women became 39.29% as against 8.86%. At present, India is considered as third biggest country of the world with such a wide-range education policy.

In 1950-51, there were 2,09,671 primary schools, 13,596 upper primary schools, 7416 higher secondary schools, 370 colleges of general education, 208 colleges of professional education and 27 universities. But in 1993-94 number of primary schools has gone up to 5,72,923, upper primary schools up to 1,55,707, higher secondary schools up to 88,411, colleges of general education upto 5629, colleges of professional education up to 1125 and universities up to 213. There has also been an increase of enrolment of students to 1714 lakh during 1993-94 compared to 239 lakh during 1950-51-right from primary to higher secondary level. In case of higher education enrolment went upto 50.1 lakh during 1993-94 as against 3.6 lakh during 1950-51.

A high level conference of nine countries i.e., India, Pakistan, Bangladesh, China, Egypt, Nigeria, Brazil, Mexico and Indonesia was held on 16th December 1993 in New Delhi. These countries which are considered as world's most populous countries pledged that by year 2000 or as early as possible primary education/elementary education would be made accessible to all the children. 18 point programme known as Delhi Declaration was released and an action-plan was also chalked out to meet the above-said challenge. More than half of world population dwells in these nine countries of which 70% public is illiterate.

The Delhi Declaration is based on the theme Education for All and thus envisage to make elementary education available to youths and adults besides children. This conference was organised by Joint cooperation of UNESCO and United Nations Population Fund. On the basis of data available with UNICEF (1993) only 53% children complete the primary education in India as against Japan (100%), Sweden (100%), USA (90%) and Egypt (95%) respectively.

On the basis of census (1991), 52.21% population of India was literate, According to Kothari Commission, following are the causes of unfifilment of Constitutional directives:

(a) lack of adequate resources
(b) tremendous increase in population
(c) resistance and conservative out look towards education of girls
(d) general poverty of the people
(e) illiteracy and apathy of parents

However, low rate of literacy can be attributed among other things to the diverse nature of Indian society where establishing and implementing an educational programme itself becomes a challenging task for the government. But the situation is not all that irredeemable when it comes to mass literacy.

In an effort to fulfil the educational needs of the country specifically for the diverse societies and cultures of the country the government has chalked out different educational categories: elementary education, vocational education, university and higher education, adult education, women's education, education for scheduled castes and scheduled tribes and minorities education. Under each programme various schemes have been designed for different categories of learners.

Since 1976, when education became a joint responsibility of the central and state governments, various concerted efforts have been made to promote literacy. Many innovative schemes have been introduced in the last 59 years. National Open School, National Open University, Correspondence courses, Non-formal Education, Distance Education programme etc have been established. Despite the establishment of a number of schools/colleges/universities a large segment of Indian population was

unable to access them. Thus, the establishment of National Open School, Kendriya Vidyalayas, Jawahar Navodaya Vidyalays, Sahodaya Vidyalayas etc. were efforts to make education available to the masses.

In order to attract the children to attain primary education compulsorily the mid-day meals programme was launched by Central Government. Also some states have started providing text books and school bags free of cost to lure children towards temples of learning.

The Union Cabinet announced on May 16, 1997 that it has decided to make elementary education to children in the age group of 6 to 14 years as a Fundamental Right. It proposed to amend the Constitution. The constitutional amendment will make it a fundamental duty of every citizen who is a parent of a guardian to provide opportunity of education to their children in that age group. The Union Cabinet decision is a significant decision in the 50th year of India's Independence towards making the long pending promise of universal elementary education a reality.

In order to bring about the equality and social justice, uniform school education policy (10+2+3 pattern of education) has been implemented throughout the country. Educational programme e.g. National Rural Employment, Jawahar Rozgar yojna, Tribal welfare scheme etc. has been implemented for SCs/STs/women/educationally backward and physically handicapped. Preference is being given for opening of primary schools in tribal areas. All efforts are being made to maintain equality between men and women in respect of achieving education. In order to provide necessary infrastructural facilities operation blackboard scheme has been implemented. School buildings have been constructed under Jawahar Rozgar Yojna on priority basis. Availability of teachers is also being met with.

The scheme of non-formal education is being implemented for those children who leave the schools, or for those where there is no school for working children and for girls who can not afford to spend full time in schools.

In secondary education, opportunities for science, humanities, social-sciences, commerce and vocational subjects e.g. computer education etc. have been made.

Since under development programme adult education is one of the very important aspect, so National Literacy Mission has been coupled with national goals e.g. eradication of poverty, national integration, environmental conservation, small-family norms, equality of women, universalisation of primary education etc. Newly adult literates who have completed their primary education would be given opportunities of continuing education through group-teaching, public-teaching, Radio, TV, educational films and distance education courses. Since development of a nation depends upon the development of skilled workers as per need of the hour, so development of human resources would be made with utmost care. According to Minister of HRD, Sri SR Bommai on 1st August 1997, the rate of drop-outs in primary schools has come down to 36.3 percent from 54.9 percent in the past thirty years. The drop-out rate in the upper primary schools has also come down from 78.3 percent to 52.8 percent during this period. The literacy levels in South India were far better compared to the Hindi heartland owing to active role played by the voluntary organisations and religious missionaries. It was estimated that a sum of Rs. 50,000 crore would be required to achieve universalisation of education in the country. The government would try to allocate adequate funds for this purpose in the ninth plan.

Under the improved policy of education (1992) more emphasis has been laid on value education and cultural heritage. School books have been developed to make children aware of national integration, secularism and human values. Books have been proved to be the effective means of promoting education. In order to review the school books, National Coordination Committee was constituted in 1991 and later in 1993 a conference of educationists and education ministers was held.

Problems in the Expansion of Education in India

Uneven spread of education, low enrollment of the backward sections of the society, stagnation, wastage, low enrollment of girls, apathy and poverty of the parents, defective curriculum, uninspiring methods of teaching, lack of suitable reading and writing material for children, lack of qualified teachers, frequent transfer of teachers, lack of effective inspection and academic guidance by the inspecting staff, failure to enforce compulsory attendance, lack of a suitable admission policy, conservative attitude towards co-education, inadequate and unattractive school buildings, poor nutrition of children, existence of large number of incomplete primary schools, lack of part-time facilities, group rivalaries of local

bodies, meager financial outlays and over population etc. are some of the problems in universalisation of elementary education and all such problems need to be solved urgently because in the words of a renounced philosopher Goethe "Decline in the education system indicates the decline of the nation."

Shortcomings of Present Educational System

(a) Present system of education lays greater emphasis on narrow individualism, unhealthy competition, verbal fluency (specially in English) and more acquisition of information while it neglects social objectives, values, co-operation, manual work, training in skills and building up of character. Thus, it has proved itself to be inadequate to meet our national needs and aspirations.

(b) The system maintains a set of double standards. Access to good institution is selective and is mostly availed by the enriched social groups. On the other hand, there is open door access in other institutions where standards are poor and large majority of the people including the weaker sections receive their education. This dualism leads to undesirable social segregation and to a perpetuation and strengthening of inegalitarian trends in our society.

(c) Quantitatively speaking, it is mainly the upper and middle classes that are the beneficiaries of this system. 50 percent of the population (age 10 year and above) which is still illiterate, has obviously received none of its benefits.

Modern Trends in Educational System

UN Secretary-General Kofi Anan addressing to the American Council of Education said on 24th February, 1997 that trends such as democratisation and economic liberalisation had opened up new perspectives for education. He told conditions of poverty worked against promoting universal access to quality education. He said a lack of resources meant that schools were not built, teachers were not hired and access to new technologies was limited.

Also, in the educational conference of UNESCO recently held in Bangkok some educational priorities of the coming century have been recommended as follows:

(a) Learning to know
(b) Learning for life
(c) Learning to do
(d) Learning to be

In the report, it has been emphasised that focus on the economic growth to a broader focus on human development, the quality of life and saving of the environment should be laid positively.

New Educational Paradigm for the Next Millennium

It is rightly said, "Upon the education of the people of a country, the fate of that country depends" but in the 21st century, India will have the largest number of illiterates on earth and we still close our eyes to the fact that no country in the world has been able to achieve high rate of literacy without making elementary education compulsory.

In order to make the pace of national development faster, it is essential to remove mass illiteracy. According to Indian philosophy, human beings are very important national resource. Their development should be carried out with utmost caution by adopting progressive means and with utmost sensitivity. Every person has got its specific personality. He faces all types of problems and requirements from birth to grave-yard. In the process of this typical progressive system of development, education may play its catalytic role: as such, there is vital need of educational planning and its implementation in the right spirit. From socio-political point of view, India is passing through a transition phase in which the roots of Indian ideals are getting weakened and principles and aims of socialism, secularism, democracy and workmanship are not getting realised.

Education for all is the uppermost requirement in view of physical and spiritual development of the country from national perspectives. In this competitive age, education is the only basis for self-sufficiency and self-reliance. It is only resource for present and future development and also to make well-cultured society. Keeping above goals and objectives in view, it is the need of the hour to evolve a new education policy for the next millennium.

Enhancement of the quality and standards of education are a matter for those who teach and design academic curriculum. We need various but purposeful non-canonical or sub-culture works. According to Prof. Ronald Barnett- present programme of teaching is now outdated and obsolete. It has lacked "an overreaching educational rationale devoid as it is one of a coherent vocabulary and a set of conceptual responses around which we can build a curriculum for the next millennium."

National wide aim of educating all before the start of the next century is a necessity. All the people should be educated regarding population-problem. Moral education (Value-education) should form a part and parcel of educational system pertaining to Indian society. Our system of education not only imparts knowledge in various subjects but also acts as a medium of transferring culture from one generation to another and develop wholesome personality of children at school level. As school is a social institution, the medium of instructions should be based on the present circumstances and need of the time. Weight of school-bags should be reduced as it hampers natural growth of tender-minded children, as per recommendations of Prof. Yashpal Committee. Board examinations, entrance tests seem to be total waste. It is colossal wastage of resources as well as a great torture for the students appearing for these tests. Present trends give more stress on the redundancy of our degrees. After spending three years in B.A. studying ages-old Shakespeare and Milton makes no sense. One can not even get a good job. Post-graduation, too, gets you no where. Keeping in mind the frustration and stagnation coming in the field of academics, parents/students refuse to choose this field. This problem of frustration would only be solved if universities go in for more and more of vocational and job-oriented courses. A few schools and colleges have gone in for these courses in a big way. Probably every school should have computer as a subject. Colleges should try to offer more and more of subjects like fashion-technology, fashion-designing, textile and dress-designing, sales and market-relations, home-science, management, secretarial courses, business administration etc.

Lack of interest in the studies on the part of students is another feature which should also be taken into account. There is an urgent need of bringing the students back to education. System of short education courses would certainly attract the children to schools and colleges.

Need is for a change at the school level itself. How can we groom children for higher-education who can not spell simple words like station or engine. Complete change of education system is required. If we have to survive in the next century then the prevailing system has to be nullified. A new set-up is required where job-oriented specific courses should be introduced. Today, boys as well as girls have to earn for decent living. Survival on one member's income is not possible. For better standard of living and proper development of personality, even the girls have to go out in the world for their earning. Education is the only way that can enable one to stand on one's feet. But, if we continue with the same pattern of studies, it would not be long before our universities and colleges would loose their fascination and real purpose. Increasing population may keep school full of children and demand of opening more new schools would always be there.

However, these higher-secondary institutions will become insignificant. Heavy weight of books, cramming up of chapters will take these young brains no where. Neither are we preparing superbrains nor high-tech executives.

With technology moving at a lightening speed, survival seems to be only of those who educate themselves to the prevailing circumstances. So our education system must give human beings a superior, mature outlook to face the struggles of life successfully. It is rightly said that "education through knowledge brightens up life."

No educational transformation can be brought about in a vacuum because education is a sub-system of the society as a whole and because the social and educational structure support and strengthen one another.

Perhaps the most urgent and significant reform needed is to transform the basic structure and processes of the educational system, to make it flexible and dynamic and to move in the ultimate direction

of providing opportunities for life-long learning to every individual. This transformation will emphasize ethical values and human welfare enriched by science and technology. It will also imply the shifting of emphasis from teaching to learning, from the individual to social objectives, and from mere acquisition of information to the development of skills and character-formation based on knowledge. There would be multiple points of entry, flexible and student-oriented curricula, an equal emphasis on all the three channels of study (full-time, part-time or own-time), use of all the teaching resources of the community (both human and institutional) rather than depending only on the schools or professional teachers. It would imply the provision of every facility for recurrent education so that an individual can join or step off the formal system as and when necessary, adopt any channel of study that suits him, and learn at his own best pace and from whomsoever he chooses. Work and education (which will be closely linked to productivity) would run concurrently throughout the life of an individual; and education and development would be linked together, education assisting socio-economic transformation and participation in programmes of such transformation, becoming a medium of education itself.

Suggestions for the Establishment of New Educational System

Education is standing at the cross-roads in the present circumstances. In order to make education purposeful and justifiable, following measures are suggested herewith .

(a) Eradication of illiteracy may be achieved by implementing total school education for the progress of the nation and making it a social campaign and involving all the social organisations.

(b) Special provisions for four backward states viz., U.P., Bihar, Rajasthan and M.P. where literacy levels are way below the national average, must be made. In these states an extra special efforts is to be made to ensure that there are schools and teachers. These schools should be controlled by Village Panchayats.

(c) Proper modification in the quality of education should be made so that children upto the age of 14 years must complete their primary education.

(d) Educational scheme and management must be decentralised. Education schemes must reach at every level from centre to state, state to district level, district to block and village level.

(e) As the government of India is heading towards devolution of powers and making village panchyats more viable and powerful, it is, therefore, essential that schools and village educational committees should be made responsible and accountable for universalisation of education in their respective areas.

(f) Due to weak economic conditions and lack of social services, literate youths are not ready to be in the villages. So, it is unavoidable to reduce the gap between cities and villages and to make available different types of employment opportunities. Population-problem must be checked and in order to control the population growth, women should be made literate and educated.

(g) On July 11, 1997, Shri A.B. Vajpayee, former Prime Minister of India stressed on universal primary education preferably for girls for achieving the stability in population because it is the root-cause of all problems of education. Hence, it is very important for us to popularise girls education and ensure their elementary education compulsorily.

(h) Curriculum of education depends upon the prevailing situation of a nation to cope with the growing competitive world. As such, it must include mathematics, population-education, computer-education, yoga, games & sports, cultural activities, physical and health education because it is rightly said 'healthy mind rests in a healthy body'. Democracy, secularism, scientific approach, equality irrespective of sexes, honesty, courage, justice, respect for all human beings, for all cultures and languages etc. must form an integral part of curriculum. In order to lay the foundations of national integration in the country; the schools must aim at emphasising unity in diversity. Curriculum should be drastically revised so as to develop a complete personality of the child.

(i) The principle of an open system of learning through distance education seems to be the best in view of shortage of trained teachers, lack of space and other related facilities, education could not be provided to a large number of people through regular day-time courses. Some of the other significant features are as under:
National jurisdiction, flexible admission rules, individualised study with flexibility of place, pace and duration, use of modern educational and communication technology, student support services for academic and administrative help and a comprehensive evaluation scheme.

(j) Another major programme at the secondary stage which needs attention on a priority basis is vocationalisation of education, which will give us middle level semi-skilled and skilled manpower in all walks of life. The programme will link education closely with productivity and, what is even more important, it will reduce pressures on the universities. It should be clearly related to the employment opportunities available (including programmes of self-employment) and should be school-based, industry/agriculture-based or of a sandwich type depending upon the circumstances. The ultimate objective should be to divert about half the young persons to appropriate vocational courses.

(k) According to National Policy on Education, 1968, investment on education should be slowly increased so that it should reach upto 6% of the national income. But investment on education from 1968 to till date was very less as against the goal already set for the purpose. So all efforts must be made to increase the investment on education so that it must exceed 6% of national income.

(l) Teachers should be provided ample opportunity to represent in educational management. Voluntary organisation should also make their contribution for the enhancement and propagation of government programmes. Government may extend financial help to such organisations under reference. Fees may also be increased to meet the resources for educational investment. Tuition fee for higher education must be suitably enchanced. Examination fee, laboratory fee, building fee etc. should also be made free for children of weaker sections of the society.

(m) Working strategies of education must be made more better at every level and every sector. Opportunities should be created to procure better technologies.

(n) In order to make education purposeful, effective and efficient top level posts e.g. Education Secretary, Director of Education etc. must only be given to educationists.

(o) Secondary Education Commission (1952-53) and Kothari Commission (1964-66) have criticised the expenditure on educational administration and inspection. As such, necessary steps may be taken up to curtail the expenditure.

(p) Role of NCERT, NIEPA and UGC should be re-examined in view of the quality of education, amendment in curriculum, qualitative and quantitative creation of educated masses etc.

(q) Lot of money is being spent on adult education but in actual practice it is proved to be a futile exercise on the basis of analysis made in 1985. So, it would be more beneficial, if the amount spent on adult education may be diverted for universalisation of primary education.

(r) Also every year huge amount is being spent on Inservice education/training of teachers. But it would be better if this amount is used for procurement of essential items for schools and increasing its infrastructure.

(s) Expenditure on higher education must be curtailed and general education must be given more attention and due care.

(t) It would be most appropriate, if after proper examination of financial resources and finalising the priorities, the education policy for the next millennium be shaped.

Conclusion

After 50 years of independence though there have been numberous achievements in the field of agriculture, industries, science and technology, atomic energy, space technology, medical sciences etc. but

on the other hand problems like poverty, population-explosion, brain-drain, decline in moral values, increasing number of unemployed youths, illiteracy, malnutrition, lack of residential accommodation and drinking water facilities etc. in the country could not establish itself in the category of developed countries. In other words, we can sum up that all the solemn pledges made by Pt. Jawahar Lal Nehru on the eve of 15th August 1947 do not stand fulfilled Hence, this is the ripe time when India is on the threshold of going to usher in the 21st century to revive the pledge of illiteracy free India by ensuring that no child in the age group of 6 to 14 is kept deprived of attaining primary education. With the attainment of this substantial and pious goal, most of the social evils and problems in the growth and development of the country would automatically be solved and India shall have a place of pride in the fraternity of developed countries and the greatness of our country would be established and be recognised-beyond any sense of doubt, as it is rightly said "If you want to understand the greatness of a nation look at its educational system and listen to its folk songs and dances."

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Voices from the Grass Blades

S. Porel[1]

Less than three years away stands the doorway of the twenty-first century and it invites the world to enter a new apoch for the human civilization. Kind mother earth is all in her efforts and apprehensions to decorate and equip herself in all respect that she may not be misfit for the new era waiting unwrap and make a novel history for mankind and his environment.

The spear-head of the civilization is education. It is education which has guided man through the ages to unfold the mystry of this universe and at the same time he has endeavoured to know himself. *Atmanam Biddhi* - know thyself. If we take education in the narrow sense of collecting and cultivating knowledge and information which almost all the countries accept and plan for their citizens we have to restructure and reshape and redefine the exising system before entering the waiting threshold of the new century.

At the end of the Second World War, the Labour Party came to power in Britain with a new manifesto and promised "Secondary Education for All". This arose out of a new definition of education. So long, it was believed that education was a necessity but now it is - emphatically announced that education is a Right, so every democratic government should take the responsibility to safeguard the right of its citizens. It is a democratic definition. But there is an opposite opinion - Education is not for all, as everyone cannot take education because of lack of intelligence and owing to cultural differences.

This school of thoughts who are called traditionalists believe that people at large are divided into two categories : those who have superior intelligence and those who can not reach that standard of intelligence and culture. To maintain present standard and status in society there must be `Talent Tank'. This `Talent Tank' be filled in by intelligence based tests or examination. Today's children are the leaders and cornerstones of future state and society so if this present standard of education and culture are to be linked with those of the future, educational standard and values should not be fitted. It is education only which is the binding and continuing force to conjoin the present with the future. If we peep into the educational scenario in all the schools and higher institutions we would see that all of them are being run on this ideal of education.

Following the slogan `Education for All', there has been vertical and horizontal expansions of educational infrastructure. Number of schools and colleges have been expanded many fold. Children from different strata and culture bases are thronging and they are demanding that standard of education which for most of them is difficult to reach through. They have to undergo a common test which is not akin to their experiences and feelings. The inevitable result is low percentage of success.

Here comes the idea of `Compensatory Education'. In 1950 sociologists in England had a research finding. All the students reading in the School following the same syllabus and curriculum are not able to reach the same standard. (Desh Patrika, 12 July, 1997, Bratin Chattopadhyay). Those under lower economic and social status are not doing well. This establishes the difference of intelligence and culture theory. Cultural deprivation, restricted linguistic codes, educational disadvantages compel the students to fall upon compensatory education help - like private coaching, tuition, etc. without this they can not reach that standard. So they believe that education of that standard cannot be prescribed for all. Traditionalists say that future is the reproduction of the present so curriculum should be so framed and transacted that the citizens may fit themselves in future. This type of education is curriculum based. Curriculum should be so adjusted and inculcated that the absolute standard may be kept in tact. Whenever there is a little deviation, percentage of pass of success falls. We say that standard has fallen and education of the country is in the doldrums.

Modern view holds that education and its curriculum should not be prototype of the bygone days or decades. Education is a creative art. Education is for joy. Child is at the centre of educational centre. Whatever is done should be done with a look for child's joy. According to our Shastras education is

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evolution. Education is future culture. It is an effort for life. Following Vivekananda we can say "Education is the manifestation of the perfection already in man". Here transaction of curriculum and study materials are just inputs but not the goal or aim. Education is collection of information and impressions of experiences so the world of experience and information should be widely projected on the mind's canvas.

Now a days much a quoted jargon - Democratisation of Education - is often heard. Ministers, political leaders, educationists and persons interested in education frequently utter this password.

They believe that democratisation of education means greater number of educational facilities to greater number of students. Accordingly all governments try to open new schools/colleges/ universities and build infrastructure as per their budget string. In West Bengal between 1817 and 1947 there were only 47 colleges but during the period 1948 and 1981, 160 colleges have been set up. Educational acts and laws have been amended or new ones passed to make them commensurate to people at large in keeping pace with political slogan for democratisation - 'greatest goods to the greatest number'. These changes are inevitable and inevitable for the growing numbers of citizens and requirements for economic planning and self-sustained growth and all these have been made as per recommendations of various education commissions since Independence and replication from overseas countries but democratisation of education in the truest sense is still miles away If we happen to enter a modern school classroom, we would see with wonder, well dressed well uniformed 40-50 (in a village one may see 100-150) students are attentively listening with all ears to a dramatic personae, the teacher. He is lecturing eloquently with his lesson. Little does he think, little is he concerned about the mind setup of his audience, many of whom are bodily in the classroom but their minds are roaming among the fields and lush vegetation, after the butterflies or fluttering petals of roses. Almost all the western and eastern educationists down to Rabindranath Tagore prescribe education in child's natural setup. We have taken a piece or two pages from them for patch up but not thought of the indepth structure of child's mind. Still now intelligence is the stepping stone, diving board to reach the targetted standard.

All the students citizens are not at par in the question of intelligence therefore what we would say to them who are not able to fit themselves with the mechanism of education now prevailing. Here lies the problem. If education cannot reach every offspring in his own way and attitude, if education fails to tinge his mind with new awakening, democratisation of education fails to reach its goal.

In this august assembly let us promise and pledge that in the awaiting century which is standing at the doorstep with immense unknown potentialities, we would give all the citizens of the world a variety of opportunities for a variety of experiences that they may unfurl their minds and feel ecstacy of joy in an intrinsic democratic environment of the universe which have been already sensed and felt by our ancient sages - *Yatra Bhabatyeka Needam* (Let the universe be the one best concept of one world).

The more the twenty first century will advance, the more marvels of technologies will come to serve mankind in his daily chores.

Man's material comfort will be at its peak point but he will lose his heart for compassion to his fellow neighbours. The world will be armoured with hi-tech nets of technologies but with iron heart. So if we usher in a new world full of citizens who could reshape the world countries being related to one another with the chord of humanity, we have to think anew to give the world a new panasonic education system where every son and daughter of this kind planet will flourish and nourish with a new mind in a new divine body. Sri Aurobindo, one of the greatest sons of the universe, says so.

Developments in Education
Education for All : Vocational Education

Riki Malan [1]

Introduction

The situation in South Africa is familiar to all of us- SA has been in the limelight for a considerable time regarding all kinds of issues like politics, health, education and others. It is in the light of this that we would like to share with you some ideas from SA with the hope that these could be useful to India when you look at the next millennium. Thank you, therefore, for giving me the opportunity to focus at this important conference on the role that partnerships in vocational education and training, through distance education, can play in providing education for all.

There is no doubt we had and still have situation in South Africa which calls for in-depth thinking and planning.

We are fully aware of the vast changes that are needed, and have already started to deal with them. About 30 million people in South Africa are over 13 years of age. About 9 million of these (that is, 30%) are functionally illiterate. At a regional level illiteracy and innumeracy vary form less than 20% to over 40%. Almost 52% of potentially employable young people of all population groups between 16 and 30 are unemployed. In total, about 12 million people are out of school and out of work. This is a rather grim picture.

Why is there this vast lagging behind in education? What are the inhibiting factors?

- One of the strongest inhibiting factors could be the past isolation of South Africa from the rest of the world. Education suffered in the sense that we didn't grow with the technological development in the rest of the world.
- Having to keep up with the rapid development and explosion of knowledge is another inhibiting factor, although this is certainly not restricted to South Africa.
- The compulsory dependency on bureaucratic systems resulted in:
  - poor assessment systems that relied almost entirely on end of year and end of semester examination;
  - poorly provided learner support;
  - an institution and teacher centred approach rather than one that focused on the learner;
  - extremely slow processes for changing curricula;
  - lack of strategies for taking advantage of distance education in vocational education.
- Education and training did not grow sufficiently and was further inhibited by the disregard of the diverse needs of learners. For example, those of a white middle class male compared with those of a black woman living in a rural community.
- In general the role, of distance education was not recognised Appropriate funding and organisational arrangements for effective distance education were not developed. Indeed, they were hampered by legislation and bureaucratic regulations.

The above mentioned factors are only some of the inhibitors of growth on the education and training scene- no doubt many more could be identified. The message really is: there was inhibition and neglect of education, and this called for change.

Change

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"Change" is the buzz word in South Africa. We changed our government, we are changing our outlook and mindset, our structures and society.

We have had our first free elections. But now people want to see how this will change their lives for the better.

What concerns us is that people are still in the mode of change and expect to see results. There is a very real risk that, if appropriate change does not occur, our customers in the community and industry will take their business elsewhere. Change could be detrimental, but with a strong vision carefully handled, could lead to growth. However, when becoming aware of problems, one also starts seeking solutions.

A Winning Recipe: Partnership

Regarding Needs Analysis

It is my firm conviction that, due to strong and enlightened leaders, we have a clear vision to follow. The consultative process ensured co-operation between government, labour, providers of education and training, and industry, and resulted in several publications such as:

- skills training
- the Act on Education
- delegation of powers to the provincial structures;
- the White Paper on Reconstruction and Development;
- a proposal paper on integration of education within provinces;
- various position papers on the roles of Technical Colleges in the new dispensation;
- various papers on the National Qualifications Authority.

Key features of all these are:

- the meeting of key social, educational and economic goals identified in the South African Government's broad policies and strategies for transforming South Africa;
- the identification of, and mechanisms to ensure standards;
- the integration of education and training;
- the redress of past injustices and disadvantage;
- learner centred and client education and training;
- improved learner support systems;
- Portability of credits and mobility of learners within a national qualifications framework that establishes and guarantees standards of learning outcomes at all levels and in all sectors of education and training.

Regarding Curriculum and Courseware Design

In the light of the change I have mentioned, the Department of Education embarked on the implementation of Curriculum 2005- our new national curriculum for the twenty-first century. The new curriculum will effect a shift from one which has been content-based to one which is based on outcomes. This aims at equipping all learners with the knowledge, competencies and orientations needed for success in the vision of thinking, competent future citizen.

Almost three years of careful planning and development have gone into the new curriculum and the Department of Education also embarked on a process of curriculum review. In all these processes key stakeholders have been party to the process. It is inevitable that more and more stakeholders will get involved in the education and training process. Formal partnership have been and still need to be established between education, labour , trade and industry and other parties. The new curriculum will enable parties involved to have a maximum stakeholder participation in an inclusive and consultative process. A process of this nature will lead to a strong alliance in South Africa.

All this will foster learning which encompasses a culture of human rights. Multi-lingualism and multi-culturalism and a sensitivity to the values of reconciliation and nation-building. The new curriculum is a major step forward to ensure quality education for all. It will be embraced by all those who have a part in the learning process.

Within this framework partnership in the development and production of courseware is fundamental. Well designed, interactive courseware is the foundation of successful teaching and learning- especially in distance and flexible learning modes. All the experience and expertise required to develop and produce quality courseware is seldom found in any one individual and institution. A team approach to the design and development of courseware is necessary and is the current trend in education globally. Significant economies of scale can be achieved as well as the utilisation of the highest level of expertise available, both nationally and internationally. This will prevent expensive duplication within the system and provide more learning opportunities, broaden access, facilitate quality assurance and improve effectiveness and efficiency throughout the education system. In this way the capacity of the whole system can be optimised to meet the extensive needs of South Africa's learners. By exchanging Materials and expertise the potential exists to produce quality courses available to vast a number of people who until have been deprived of education.

It is a basic principle of good education that the use of technology must be determined by the needs of the learner- technology must enhance learning, not be the driving force of education. Partnership with technology providers can be beneficiary.

Care must be taken that collaborative ventures with vendors are to the benefit of all parties and especially to the benefit of the learners. This needs carefully weighed judgments as to how to keep up with advanced technology.

Despite these reservations the potential for enhancing the learning experience by the judicious use of the range of available technologies is increasing by the day. If the considerable infrastructure and production costs are taken into account a feasible route to meaningful technology use is via collaborative agreements with suppliers and education providers. Partnerships in this regard will lead to education benefit from the most cost effective and appropriate technologies while technology providers will benefit from the most cost effective and appropriate technologies while technology providers will benefit not only financially but especially by the insight into the needs of the learner and education as a whole and can focus their development of products and service around it.

Regarding Delivery Systems and Student Support

In South Africa various institutions have established a network of regional offices and learning centres in recent years. Partnership will provide these centres with a cost effective solution to the problem of access to facilities and the utilisation of existing infrastructure and technologies.

There is a great deal of potential for collaborative agreements amongst various institutions, stakeholders and experts that will not only provide the courseware, but also incorporate quality assurance procedures such as moderation of assignments and examinations, providing facilitators and providing, in appropriate cases, training to use courseware in a learner-centred environment, just to name a few. Expertise from various sectors can be drawn in to assist in supporting students - it will integrate education, training and the outside world- incorporating a view of learning which rejects a rigid division between academic and applied knowledge, theory and practice and knowledge and skills.

Staff Training And Development

As I have already indicated that all the experience and expertise is seldom found in any one individual or institution. This especially apply to staff. In this new dispensation it is necessary for staff to be trained, retrained and supported in the paradigm shift.

Education will become facilitators and managers of learning in situations where they are no longer the source of all knowledge, they will plan, negotiate for and manage the integration of learning in formal institutions, in the workplace and in communities. This indicates not only the change in focus of teaching and learning but also the coping with vast developments in support materials and technologies.

Educators have to be supported and trained by experts, not only in technologies but also in human resource development This will ensure that they will be able to take advantage of the potential benefits offered by different technologies and that they can adapt to their own changing roles being introduced by the paradigm shift and the increase in the use of technologies in education and training.

It is thus necessary to ensure that the environment encourages professional development and support of educators as an investment in human potential and a right to lifelong learning. Here again partnership is essential to stay close to the reality outside the classroom Collaboration in staff development and training will provide a high quality and qualified workforce to adapt to the changing needs of society. It will improve staff value as employees, foster a climate of social and economic accountability and academic and vocational excellence.

Practical Examples

With this vision and background in mind, I would like to focus on hands-on examples regarding co-operation which my own institution, Technisa, is involved in. Technisa is a dedicated distance education technical college which serves the whole of South Africa.

Co-operation with Employers

Trainers in the workplace of the students are appointed as part-time lecturers for Technisa. They ensure that students get the necessary support in the learning process, and assist learners with integration of theory into practice.

Co-operation with other Colleges

Students from other colleges enrol at Technisa for one or more subjects while their colleges ensure the necessary student support and any form of guidance and advice.

Services to other Clients

Technisa courseware is available for purchase by other educational institutions or trainers. This enables employers to run their own training programs.

Co-operation regarding student support

Student support services are provided in conjunction with regional training centers, while regional offices for Technisa exist for instance at university campuses, other technical colleges and private colleges.

Co-operation with government

Technisa has played an important role to make contributions regarding policy especially with respect to a funding model for distance education since this has not previously existed.

These are but a few models of co-operation, many more exist Appendix - A contains a further example of co-operation and is regarded as the so-called collaboration model.

Closure

As South Africa moves from the isolation of apart held era into an increasingly competitive global economy, attention is being focused in all quarters of the country and internationally on people development. Added to this and to the intensifying economic demands is the reality of rapid growth in information available. It is causing a huge acceleration in the production of knowledge and rapidly bringing about significant changes in the general life of people and will also do so in future.

Issues here including downsizing unemployment and de-skilling of the workforce, training, retraining and lifelong learning, adapting existing skills to the information economy; the emergency of new types of jobs; enriching jobs and shifting location of work, to name a few. Of primary importance is the increasing demand for skills such as those required to access, select, and manipulate information and to plan, change and advance outcomes in a wide range of contexts and circumstances. To cope in this competitive environment, it is of vital importance to draw on all the best expertise, but also to support each other to attain the objectives set.

The introduction of an outcomes - based approach to education and training provides a unique opportunity for the integration of experience in different partners. Partnerships must foster new ways of facilitating learning. The integration of education and training through the National Qualification Framework, and the multiplicity of education and training programs provide a unique opportunity for investment in partnerships.

Appendix A

The Collaboration Model- An Example Of Co-operation

The issue for education in South Africa is in numbers- how does one take 0.1% high level first world education to the remaining 99.9% of the population?

We believe that an answer lies within the distance education delivery mode. However, it needs to be distance education with a difference-the distance needs to be taken out of distance education. We looked at models such as the open universities and open colleges around the world, models that make provision for the development of excellent study material and learner support. Whilst these models have much to offer us in South Africa, their best features need to be combined and modified to suit our country's needs, in particular:

- our vast numbers of learners:
- the lack of technology in a practical way which has as a basis co-operation;
- the need for redress.

The Collaboration Model

To illustrate co-operation between Technisa and other institutions the so-called collaboration model had been identified. The idea is to assist government in a bridging project with several advantages. The following problem areas were identified and used as motivation for the model:

Background

Problem 1.

The vast number of students in need of education and training cannot be handled by means of the traditional method of prescribed contact hours per student.

Alternative methods of dealing with this will have to be found if any success expected. All worthwhile papers regarding reform in education and training are very clear on the advantages of the use distance education. The answer to many a problem seems to be the correct and most beneficial use of the instrument distance education.

Problem 2.

A large number of technical colleges are still solely dependent on the government, the so-called state colleges. They do not generate and keep income that would enable them to expand and to play a more definite role in coping with the problem of education and training.

Problem 3.

State colleges can offer tuition to students at 50% of the tuition fees at other colleges. They do not handle own funds and therefore, can not expand or make decisions regarding tuition fees. It also creates problems for students attending traditionally state-aided colleges where tuition is twice as expensive.

Problem 4.

Technical colleges are ideally suited to train for employment and self-employment and should not be hampered by policy such as minimum contact hours and restrictions on class fees.

Problem 5.

Financial constraints seriously limit the capacity building of in-service training of staff in state technical colleges.

Proposal

Technisa, the technical college for distance education, and a number of state technical colleges in Gauteng Province have come to an agreement regarding collaboration.

The model is a combination of face-to-face and distance education based on the "hot-seat" model. This means that students are registered for the combination model. They receive distance education material, but also attend classes at their nearest colleges one or two days per week. During classes the student will have the opportunity to discuss his/her study problems with the lecturer. There will be sufficient control to ensure that quality education is given to students.

Advantages of The Proposal

For the Student

Each student attends all his classes on the same day or two of the week. Students can save on costs getting to a college every day. The student gets the opportunity to develop self-study skills. It will be an economical way of studying.

For the local college

- The local college could enrol at least five times more students than before, because the groups of students alternate.
- Experienced teachers services could be utilised as facilitators or mentors regarding supervision and monitoring of self-study.
- The college can handle the increased number of students with the original number of lectures.
- The college can put equal opportunity action plans into practise by utilising the services of experienced staff as mentors while in-training staff could be employed under the supervision of experienced staff.
- The college could start own funding and become less of a burden to the government while taking care of unemployment at the same time.

For the Government

- More students will be catered for decreasing the numbers of demands both in ABET and Further Education bands.

- No or few additional teaching posts will be required resulting in a potential saving for the department.
- Because colleges will gradually increase their income they will become less of a burden to the department.
- This project could be the bridging period to taking state colleges to the stages of less dependency on the state.

For Technisa

- An increase on the demand for study material will lead to increased income which will necessarily lead to better products.

For the lecturer at colleges

- Increased experience as more students will be taken care of
- Possible additional income

Conclusion

The first partner will develop appropriate study materials. In the case of vocational education this would be Technisa, the Technical Colleges of South Africa for Distance Education. Technisa is the only technical colleges of its kind, and carries enormous responsibility for the provision of technical and vocational education, at both provincial and national level.

Technisa is ideally suited as an instrument for government to reach the masses that need education and training, provided that the other technical colleges are drawn into the model and that technology can be utilised. In this capacity Technisa would be responsible for the development of high quality study materials that are:

- Learner friendly;
- appropriate to needs of commerce and industry;
- supported by different media;
- outcomes-based and modular;
- adaptable ;
- within the reach of the masses. This implies the alternative delivery methods and much larger classes which I described earlier;
- training of staff to cope with the demand.

Education as a Human Right : The Trojan Horse of Recolonization

Madhu Suri Prakash[1]
Gustavo Esteva[2]

By old habit or new force, carrot or stick, educators and education are rapidly changing to stay unchanged.

Blind political and economic forces are pushing the educational system out of the global market. To protect it in this turbulent time, educators, parents, governments, corporations, its guardians and consumers, continue to commit their will to the latest brands of educative potions and ever-new trinkets or teaching technologies.

The uneducated, the miseducated, and the undereducated are neither blind to, nor nonconscientized about, those efforts and processes. They are capable of seeing through the latest educational formulae being concocted for their secular salvation. They have their own ways, their own rich and ancient traditions for expressing their disenchantment, skepticism, or discontentment with the education they got or failed to get. They are teaching each other how to become refuseniks.

The counter productivity of education and the educational system is evidenced in almost two centuries of history. The time has come to abandon this modern myth; not to give it a new lease on life with its postmodernization.

Enough is enough! *¡Ya basta!*

What is good for the goose is good for the gander. In fact, education is a good for the goose precisely because it is good for the gander, according to assumptions and conclusions of the educated. It is a universal genderless *good*; so good, indeed, as to be declared a basic human *need*; so needed as to be claimed a universal human *right*.

One man's meat is another man's poison. Refuseniks are learning to resist any and all universal formulae of salvation; to recognize the cultural roots of each promoted globalism or universalism; to realize that all of them–including the different brands or breeds of education–are nothing but arrogant particularisms. What for some people is the proverbial dream come true, for other people is a waking nightmare: a plague, a disease destructive of their traditions, their cultural and natural spaces.

In the epic now evolving at the grassroots, the social majorities are taking steps to liberate themselves from the social minorities. Those classified and categorized as uneducated, underdeveloped, poor or undeveloped are struggling for their freedom from those who consider themselves to be educated or developed. Step by step, the former are dismantling all the institutions and projects of the latter which discriminate against them–including the educational enterprise.

In articulating these initiatives as "Grassroots Postmodernism," we seek lucidity, courage, and imagination. These are necessary for creating solidarities with communities and groups suffering the most marked and vicious discrimination of our times–imposed by the educated as professional assistance, aid, or help upon the three contemporary [lower] castes: the miseducated, the undereducated or the noneducated, who constitute the majority of people on Earth, the Two-Thirds world.

The Different Faces and Facets of Education

Education is celebrated as a cherished gift by the educated. Singing songs in praise of it, they

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describe how it offers different freedoms: to realize personal dreams, visions, and careers; to open the mind; to live the good life; to bring about social justice and equality; to realize democracy–conventional, progressive, or radical; to celebrate one's own cultural inheritance; to enjoy and promote cultural diversity.

What does this gift of education mean for the women and the men, the young and the old who constitute the social majorities of the world? those belonging to what are currently called "the cultures of silence?"

Freedom and Mobility for the Individual

Radical, liberal, and conservative educators promise social mobility for escaping marginalization–economic, political, or cultural. People are educated to aspire for and approach the centers of power and control by their teachers, their liberators, their emancipators, their empowerers.

Mobility overcomes marginalization–goes the familiar global chant of education. Mobile individuals, like their cultures, escape the marginalization of people going Nowhere; of cultures stuck in their past; dwelling rather than pursuing progress by "moving and shaking."

Through their education, however, children learn to leave home, not to stay home. The psychological and cultural price of this impact cannot be measured (Berry 1990, 164). The new social norm implies that the child's destiny is not to succeed the parents, but to outmode them; succession is substituted for supercession. Neither school nor university looks towards passing on an unimpaired cultural inheritance. Instead, they push and promote the professional career. This orientation is "necessarily theoretical, speculative, and mercenary." The emphasis is on earning money in a provisional future that has nothing to do with place, commons, or community. Parents and children are separated from each other; made useless to one another (Berry 1990, 163).

In the worlds of the uneducated, in the cultures of dwelling, elders, parents, and neighbors teach and learn traditions which emphasize staying well rooted; strengthening the knowledge and skills needed to nourish and be nourished by their own places. Their ways of knowing, of living and learning, contain little or, better yet, *nothing* of the knowledge the educated need for their social mobility (Berry 1972, 1977, 1983, 1987, 1991a, 1991b; Prakash 1994).

The Indian peoples of Oaxaca in Southern Mexico, to take one example, have flourished, as have their places, because of their traditions of teaching and learning. Their diverse cultures have continued to be enriched despite the abuses and interventions they have suffered from all kinds of Outsiders–ranging from the Aztecs in the pre-Hispanic world to national elites.

Transnational Corporations in Contemporary Times

Centuries upon centuries, they have been exposed to every variety of foreign imposition upon their lives and beliefs. Unlike indigenous peoples across the globe who have disappeared, died off, or been melted into the oblivion of the so-called national "melting pot," the sixteen Indian peoples of Oaxaca have successfully kept regenerating their language and culture, while coexisting with, as well as resisting, their colonizers' universalizable truths. Their evolving modes of cultural coexistence protect their pluriverse, adapting to each new condition of oppression and domination without losing their historical continuity. In recent years, they seem to be transforming their *resistance* into a *struggle of liberation.*

In four out of every five municipalities in the pluriverse of Oaxaca, differentiated moral and political traditions prevail, enriched through the intense interactions which these peoples have maintained over centuries with other cultures, whether dominant or dominated. They express neither the need nor desire for formal codes to give official definition to their traditions–well known and embraced by every

member of the community. Their system of justice seeks neither the abstract impersonality nor the neutrality that supposedly defines the modern judicial system, being exported worldwide from the west.[1]

"Westerners," observed Marcos Sandoval of the Triqui people of Oaxaca, "represent justice with a blindfolded woman. We want her with her eyes well open, to fully appreciate what is happening Instead of neutrality or impartiality, we want compassion. The person committing a crime needs to be understood, rather than submitted to a trial" (in conversation).

These open eyes of their justice do not, for example, look for punishment when a person violates a shared custom. He or she is perceived as someone in trouble who needs understanding and help, including the opportunity to offer compensations to the victim of his or her fault. If inadvertently, unintentionally, or because of a lack of prudence, someone burns a part of the forest, he or she must reforest it. If a man kills another, he must assume full responsibility for the welfare of the dead person's family for the rest of their lives. Rather than confine wrongdoers in jail, they seek to create experiences that encourage the doers of damage to calm down, to reflect on the violence of their crime, for a safe return from their delirious conditions. These practices are not conceived as forms of punishment. Instead, they offer communal support: according opportunities for the soul to heed the wisdom and advice of elders when they come to converse and reflect with those who have wronged others. Among peoples where these regimes of communal justice fully prevail, the incidence of all sorts of "crimes" or wrong doings is far lower than among the abstract citizens upon whom the State inflicts its legal regime, proclaiming the equality and impartiality of fair trials–one type of human right prized among many as a part of human "progress."

The Indian peoples of Oaxaca have been able to protect their indigenous regimes of justice against the threats of the Spanish Inquisition; later, from the ferocity of the dictatorship in Mexico at the end of the nineteenth century; from impulses of the revolutionary governments in the first century; and then again, from the modernizing fever of public developers who fell upon them during the last fifty years. In all these centuries of cultural resistance to "the Other," the Oaxaca Indians relied upon their own traditions; including the *tradition for changing their tradition*. This has helped them to adjust and enrich their regimes of justice, adapting them to every new condition. At the same time, it has helped them to hold on to their unique cultural leitmotivs: themes that have kept them as peoples within their own original and unique cultural pluriverse.

Currently, however, all these differentiated cultural groups and small communities are confronting a new threat. Governmental as well as nongovernmental agencies and institutions are proselytizing another global morality implicit in the Universal Declaration of Human Rights. They persist in invading all communities with their "secular" religion of human rights.

"I can no longer do what is fair," reflects Rómulo Santiago, municipal president of Huayapam, near Oaxaca City; "every time I try to bring justice to our community, applying our traditional practices to amend wrong doings, a human rights activist comes to stop me" (in conversation).

This contemporary threat has many faces. One face is that of establishing national and international juridical procedures that supersede communal customs for establishing fairness and justice. The other face is that of the gamut of "social rights" associated with economic development and progress.

To those struggling hard to maintain the autonomy of their cultures, human rights activists or agents of the government explain that all human beings must claim the universal human right to health, employment, modern medicine, sewage, roads, and other social services. They are urged to present their claims before the pertinent State authorities for obtaining whatever they "need." They are educated by the educated to conclude that education is undoubtedly among the most "basic" of human "needs"–the wrench of reason needed to open parochial, nonmodern minds to change and progress.

Give a man a fish, you feed him for one day. Teach a man to fish, you feed him for life. Better yet, educate a man for life, and you give him the wherewithal not only to similarly educate others for life,

but to be able to discover all that he "needs," and must consequently claim as his Human Rights–Welfare as well as Liberty Rights.

Education is both a welfare and a liberty right. It promises security: of jobs, pensions, health care...These are the familiar strains of, by, and for education. They are sung to seduce peasants and other marginals into parting from their children; to gladly hand them over to the elementary doorkeepers of the Neoliberal Global Economy.

The carrots and sticks of seduction or fear distract the upward or outward bound from studying the underbelly of education. When studied from up close, we discover with others that those who become addicted to classroom instruction end up losing real opportunities for learning the knowledge and skills with which communities endure and flourish; that the more their commons and communities are destroyed, the more dependent they become on diplomas; that the more diplomas are distributed, the more difficult it is to procure them; that while their procurement becomes a more difficult uphill enterprise, the economic value of credentials and diplomas slumps downhill–with rapidly reducing guarantees of access to salaried jobs; that the "lucky" few who wangle their way into acquiring job-guaranteed credentials form crippling dependencies upon salaries which come and go with the vagaries of international currency markets; that *the masses* must settle for minimum wages or unemployment minus welfare in the growing global economy.[2]

Professional Careers for Growth, Security and Satisfaction

Pride in the professions is justified by promises fulfilled: of personal growth, security, and satisfaction. Entrance to the professions must be deserved; won by the worthy; by dint of hard work; by honestly earned merit; with geese and gander alike lifting themselves up by their unisex bootstraps–free of the privileges of birth, caste, color, creed, or age.

To feed and foster the economy of the "disabling professions" (Illich & Kenneth 1977), education destroys the economy of home and community. These are left weak and vulnerable when people are no longer useful to one another. As this vulnerability grows, people fall into dependence on exterior economies and organizations. The local schools have no use for the local community; "they serve the government's economy and the economy's government" (Berry 1992, 164). Education for "community busting" establishes itself through "the hegemony of professionals and professionalism" (Berry 1990, 164).

Professionals are educated to "erect local failure." For educators and educated alike, "the locality exists merely as a market for consumer goods and as a source of 'raw material,' human and natural" (Berry 1990, 164). They learn to lose "pride in [their] surroundings;" to feel no poetry about the home life. The village scenes become "a sealed book." The local culture "is presented...as imbecile, barbarous, superstitious and useless for all practical purposes" (Gandhi 1953, 33). Saved from the parochial cultures of the *hillbilly,* the *ganwaar* (villager), the *red neck,* or the *local yokel,* education for the economy of professionals leaves "young people...contemptuous of the calling of their fathers. "Almost from the commencement, the text-books...never [teach the student] any pride in his surroundings His education is calculated to wean him from his traditional ancient culture " (Gandhi 1946, 32-33).

Gandhi's truth (Gandhi 1946, 1970) refers not only to the education that the colonialists imposed upon their Third World colonies. Documenting how "the country becomes the colony of the city" in democracies like America today, Berry describes how "a vast amnesia invades the countryside;" how "local knowledge and local memory move away to the cities or are forgotten under the influence of homogenized sales talk, entertainment, and education" (Berry 1990, 156-157).

While a few benefit from the economy of professional careers, the many suffer the loss of "local knowledge and local memory." The professions ignore or write this off as "one of the cheaper prices of

progress." Other careerists use this local failure to transform it into "the business of folklorists" (Berry 1990, 157).

Only those marginal to the educational enterprise or the economy of professional careers still sense that

when community falls, so must fall all the things that only community life can engender and protect: the care of the old, the care...of children, family life, neighborly work, the handing down of memory respect for nature and the lives of wild creatures (Berry 1990, 157).

Cultural Survival, Enrichment, and Diversity

Entrance into or advancement within the economy–national, international or global–is among the "lesser" (though necessary) functions served by education. Its higher function is cultural continuity, enrichment, and diversity.

Yet, wherever education advances, homogenization establishes itself. With every advancement of education or the educated, a "global monoculture spreads like an oil slick over the entire planet." The five thousand languages that currently survive can be seen as threatened species–in danger of extinction. Within a generation or two, not many of these languages will survive, if current trends continue. Of the languages that survive, only one percent survive in Europe and educated North America. It is scarcely an accident, that "the home of literacy as well as the nation-state" has only one percent of the languages that survive (Sachs 1992, 102).

While languages are dying and disappearing, the academic industry for the mummification and preservation of "endangered tongues" continues to boom. Between 1950 and 1970, "about fifty languages have died each year; half of those still spoken in 1950 survive only as subjects for doctoral theses" (Illich 1977, 7).

The case of Mocho offers a glimpse of the typical pattern induced by the economy of education. Only seventy-five elderly speakers of Mocho remain in Chiapas, Mexico. With their death, Mocho will die. A few thousand miles north in Ohio, the academic industry for "preserving" this language is promoting multicultural education. Fifty years from now, the only records of Mocho will be found in an American university or some other haven of multicultural education.

The story of Mocho is the story of what happens when the children of a community, pursuing the promises of education, systematically learn to forget the languages of their commons and their communities. All it often takes are two generations of school-going offspring to send the language of their Elders up north to a corporate, State, or federally funded linguistic zoo.

While some members of the academy *preserve* Mocho in their archives and libraries (locked in the prison of space and time within dead leaves–the pages of the text or the book), other members are opening the doors of equal educational opportunity for the children of Mocho speakers. Education in the national language promises them access to the economy–unlike Mocho, which keeps them attached to their immobile culture and place. But, promises multicultural education, they can have their cake and eat it too. They can learn Mocho history, language, and culture, while at the same time shaping up for being shipped out into the international economy; learning to clamber higher on the career ladder designed for the educationally able and competent; for those who want to do well in the One World, the Global Village.

The story of Mocho repeats itself wherever the educational system successfully enters, persists, and expands. In every corner of the world, cultural destruction and decimation follow as communities learn to *take-off* on the education runway. In Mexico, among the Triqui peoples of San Andres Chicahuaxtla, Benjamin Maldonado discovers that the school is the road to ignorance of the local culture. On the education road, he observes that among the children and youngsters who currently attend school, 30 percent totally ignore their elders' indigenous knowledge of soil culture (agriculture), 60 percent

acquire a dispersed and fragmented knowledge of it, while only 10 percent may be considered as capable of sustaining, regenerating and passing it on (Maldonado 1988).

Those who do not send their children down this road, however, keep alive and regenerate their cultures. Among the children and youngsters who do not attend school, 95 percent acquire the indigenous knowledge that defines and distinguishes their culture, while only 5 percent ignore it–those being children living outside the community for a long time. Sucking up the time, energy, and imaginative capacities of children with compulsory classroom attendance as well as homework, schools pose a terrible threat to the agrarian wisdom of the Triqui peoples. They impede the young from accompanying the adults of the community in their cultural practices, including those of working the soil, the *milpa*. To appreciate the ignorance imparted by the western school within the soil cultures of the world, it is important to note that soil (*agri*) culture in Mexico, India, Guatemala, Peru, as well as in the other parts of the world, is not mere technical knowledge. There are a rich and complex set of rites and myths that give life to traditional agriculture; to make it a part of the living memory and imagination of the young of their communities; learning to sow by propitiating the land, the rain; learning to harvest by giving thanks to the forces of nature; learning how to avoid the impunities of scientific intervention; learning to respect the cycles of the moon or the wind; learning the relationships and places of people in the community; acquiring all the nuances and subtleties of their native languages...School promises "liberation" from these bonds of community and tradition: from what the professional educator has come to classify all over the world as "family exploitation" and "traditional superstition"–opposed to "true science."

Schools transform the children of the Triquis into cultural parasites. Educated children, Maldonado carefully documents, no longer know how to care for or contribute to the economy of the household and the community. Instead, they require money for learning to grow up; to becoming cultural aliens in their own worlds. For the schooled Triqui, as for the schooled or educated Indians of other places and climes, "real life" lies outside the family and community. To help their children live this "real life," farming families must engage in the "sacrifice" needed to acquire the "superior" truths of science; and for making "advancements" in the economy.

The *real* price for education exacted and painfully extracted from the cultures of dwelling, Maldonado reveals, is the loss of language and culture. Falquet's (1995) studies describe in detail how Indian cultures are endangered or processed out of existence by the great acculturating educational machinery. Schools create a deep division, ripping apart the community, dividing it up into "the illiterates," who do not know the Latin alphabet because their knowledge is *only* oral, and the literates, who minimally acquire the national language–enough to feel superior to the elders of their own communities; and only enough to join the ghetto masses–too ignorant of the national tongue for climbing over the higher and higher walls being erected by the preparatories and universities.

Schools and universities, monocultural or multicultural, do not eliminate ignorance, but make it functional, while suppressing difference and cultural diversity. They cannot but promote the "superstitious efficacy" of Indian cultures. This consequence is inevitable even when indigenous knowledge becomes the academic aim, while the classroom becomes the site for transmission through education–postmodern, multicultural, or other.

Reform, Revamping, Radicalization

A common faith connects the radical Left and the conservative Right. It undergirds and overcomes the divide of deep differences that they focus upon in their battles with each other within the academy.

One key element of this common faith, professed assiduously by educators as well as all other professionals, is their capacity for solving problems. Problems are part of the human condition[3] and every

self-respecting professional solves some of them Progress brings new problems and the professions progress by solving the problems that progress deposits at the door or humanity. No self-respecting professional abandons the faith of the faithful the profession improves the human condition, preventing stagnation or deterioration The oldest profession's Hippocratic oath becomes both the touchstone and the promise of its modern descendants–all of them problem solvers But even before the era of litigation proliferated by the legal profession, professionals have remained leery of promising their clients a rose garden–especially not one that would render redundant the professions.

The common faith shared by professional educators contains many other elements, including a certain *certainty*. education is essential for the survival and flourishing of every culture, past, present, and future. There is no exception or qualification to this universal rule. *There would and could be no cultural continuity or advancement without education.*

Whatever their political or philosophical orientation, another element which brings all educators under the roof of the same professional faith is the certainty that more education is always better than less. The more the better is the inexorable law of the professions

More of what kind of education? This question, without threatening the common faith, cracks open the impossibility of consensus, either about the aims of education or the means that deserve to be called "educative" (Dewey 1963).

What social, personal, and other diseases must be cured by education? What types of well-being are sought? And how? Battles between the camps proliferate, with escalating violence and its victims. Professionals remain unperturbed; assuring themselves and their clients that competition among them is as natural, normal, and healthy as it is in the classroom; or, for that matter, in the world for which the classroom must be the best training ground–sorting out the strong from the weak; the lions of the jungle from the sacrificial lambs.

The Crassly Competitive

Vigor and vitality require competition, profess the promoters of bell curves, standardized tests, and other marvelous measures that separate the supermen from the mental midgets. They urge pragmatism and practicality; the stuff of the "real world:" the modern or the postmodern jungle, concrete or virtual, where "the survival of the fittest"–the ancient, even primordial law–still separates the grain from the chaff; the real men from the boys; the strong and able from the weak and disabled; the winners from the losers; the first from the last; the successes from the failures who deserve their fate of working for McDonald's for minimum wage.

The As deserve the American dream The Ds and Fs demonstrate their incapability of dreaming it. Some one has to wash the dishes in every society; fill gasoline; collect garbage; line landfills; clean out toxic dumps; spray chemicals; fill up cancer wards...Dropouts and Ds have earned themselves such jobs. And the As do deserve to design worlds in which the rejects, the second rate, the bottom of the barrel do time at a job rather than filling the jails paid for by the As, the Bs and the Cs. The latter work for an honest living, rather than live off the dole; or receiving free food, health care, and the other benefits that come from serving time in jail.

In the era of globalization, those who cannot compete and win deserve to be left behind; at the receiving end of nuclear waste; of other winners' waste; slaving on plantations for winners' fruits that leave workers dead or infertile; *maquiladoras* where workers' children are born with brains hanging out of malformed skulls.

That is the real world. Get a real job with education. Or expect to be shipped out–like the other waste made by the successfully educated.

Slayers of Savage Inequalities

Tracing the trajectory of the lives lost in factories, factory farms, and jails–being built faster today than classrooms–professional slayers of savage inequalities bring us to the beginning: elementary schools with neither heat nor drip-free, dry classrooms; neither computers nor toilet paper...But wait. Yes, they do have the money to invest in metal detectors needed to find the knives, guns, and other weapons that "dangerous" ten- or eleven-year-olds bring to beat out each others' brains.

While the victors eat cake...swim in heated pools through the cold months of winter...lap up laptops with CD-ROMS...play Bach; all this complemented with individualized tending all the way to the very top of the World Trade Center where the best educators gently–oh, so gently–deliver them that they may finally start living "the dream;" charging up the future of the world with wallets full of magic plastic: it opens any shut door when the right number and expiration date is punched.

True, the law of the jungle creates victors. But, they remind us, it also creates unfortunate victims. Those victimized by inhumanely competitive races lose their humanity. So, too, do their victimizers. The dehumanization of schooling is contrary to all the highest ideals in the western tradition of a liberal education.

A genuinely liberal education dispenses with cutthroat, crass competition; or softens the competitive edge so no one bleeds. It teaches respect for the laws of *social justice*; replaces the law of the jungle with the laws of democratic governance: creates win-win situations in which every man, woman, and child enjoys their human rights–including the right to educational *equality* and *excellence*.

Cultural Literacy Promoters

Equal opportunity or access to what? The "minimal competencies" needed for the market place? Or to the fragrant flowers of culture...the Great Books of the western canon...with which one can climb to the Everests of a liberal education...the highest heights of "high culture?"

The reigning Czars of "high culture" remind the rest that what makes the West supreme is not merely its economic and technological superiority or prowess in the Global Economy. Equally worthy of global emulation is its great humanistic tradition, traced back to the *paideia* of Socrates and the other Ancient Greeks.

The Ancient Greeks were fine...but for the fact that they were pagans and had too many imperfect gods...lotus-eaters, womanizers, and the like. Secular cultural literacy leaves the Religious Right uneasy. Believers of the One Best Religion and the One True God agree that cultural literacy is important for promoting the One Best System of education. It must, however, be underscored that the "high culture" taught by this system does not start with the *Iliad* and the *Odyssey*. It begins with the *Bible*.

Multicultural Literacies

Raging from within the bastion of professional education, multicultural educators focus on the classroom site for suppressing the savage inequalities that leave some individuals more equal than others; and, some cultures more excellent than others.

The classroom offers the diminutive handheld mirror for studying the sickness of the larger society; the global malady. It is the immediate site for transformation; for healing social ills: the age-old saga of human oppression...five hundred years of colonialism as well as all the earlier modes of oppression (particularly of women and other slaves) that precede as well as follow it as contemporary neocolonialism. Their long sad history of human oppression tells how White Man's pedagogy maintains his supremacy. But White Man has not been the only villain in the Play of Human Evil. Feminists, Gays

and Lesbians, and the People of Color reveal Brown, Yellow, or Pink villains and victims; each voicing their own narratives of victimization—spanning class, caste, color, age, or sexual orientation/preference.

Radicalized and reunited under the universal banner of "the pedagogy of the oppressed," they denounce all the reform efforts that give new life to "the pedagogies of the Oppressor." Instead, they call for liberation from all the diverse modes of oppression; pedagogies and curricula that will break the long, tragic, painful history of the "Cultures of Silence." Radical democracy, social justice and liberation, recognizing lines of gender, race, color, and sexual orientation, require radical education. Authentic multicultural education conscientizes learners to the language used to justify oppressing the oppressed, rendering transparent the categories of the oppressor: "failures," "Ds and Duds," "uncivilized," "pagans," "underachievers," "underdeveloped"...

Multicultural educators take on today's burdens of racism, sexism, ageism, classism...struggling to see a million flowers bloom. Emerging from under the weight of the White Man's burden, the Rainbow Coalition points the way towards radical democracy; fully conscious that the United Colors of the Rainbow may not be possible. For there is always the brute reality of a Newt Gingrich or a Rush Limbaugh, summing up multiculturalism as: "the label for all those groups who have failed to make it in America" (quoted in Gordon and Newfield 1994, 33).

The supremacists' arrogance and intolerance must not be succumbed to. Multicultural education must continue to wage the battle for difference and diversity in the classroom. Furthermore, education is a basic need, necessity, and right.

These four reformation camps are but rough, broad categories for contemporary professional fix-its. They reveal the mere tip of the proverbial iceberg. There are at least as many cures as there are identified educational ills. As with the medical establishment, there is prestige for every new disease discovered and treated: community destruction can be cured by communitarian education; low self-esteem can be raised by empowering education; racism can be cured by antiracist pedagogies; fragmentation can be fixed by interdisciplinary or holistic education; regimentation can be reversed by pedagogies for play; environmental damage can be healed by environmental education....

The required or recommended course readings for these fixes not only nourish the publication industry; they fatten the curriculum vitae of every new educational reformer who first identifies the mysterious ill that prohibits the desired learning; and then finds a pedagogical and curricular cure for it. Among the vast and growing educational reformers, the most *respectable* are certainly the great masters of alchemy who promise better schools. The most *seductive* are the popular magicians who promise to make every kitchen into an alchemical laboratory. The most *sinister* are the new masons of the universe who want to transform the entire world into one huge temple of learning (Illich 1977, 72-73 emphasis added).

To reform or to abandon education?

That is *the* question that no respectable professional dares to ask without facing the threat of disrepute.

Committed professionals cannot confess, even in the privacy of their bedrooms, let alone in the public arena, that all the cures concocted by their profession are far, far more terrible than all the different diseases it professes to heal.

Heretics who dare to deprofessionalize themselves must be put to death; or, best yet, either not be studied at all or be studied just enough to merit dismissal with a sound kick in the pants so that students learn proper obedience and respect for the professions.

It is a valuable lesson for learners to see that in the Open Society, serious critics of the professions are given enough room to jest, like the professional jesters of the court, in order to be soundly jeered out of the critical professional consciousness.

Multicultural Education: An Oxymoron

American pluralism has a beautiful but limited tradition. Its enormous variety of educational, medical and ecclesial systems witness to it...Only in the domain of religion is the constitutional protection of the non-churched atheist taken seriously. This society is gravely threatened unless we recognize, without envy sublimated into grudge, that dropouts of any description might be closer to Huck Finn than are the churchgoers or schoolgoers (Illich 1996, 258).

Corruptio Optima Quae Est Pessima. **The Corruption of the best is the Worst**

Multicultural Education aspires for the richest aims yet to be conceived in the history of the educational system. Who but the Hitlers, the Pol Pots, the Pinochets, the white supremacists, the Ku Klux Klan, the *Ananda Margis*, the Shining Path, and other fundamentalists can resist or deny its allure and enchantment; of aims that seek to humanize through multiculturalizing a system in which more than half the children become human waste; dropouts or human droppings?

That question dares us to ask whether multicultural education is an example of Promethean expectations gone awry? Is it possible that an expensive system–unaffordable for the Two-Thirds World–which has failed abysmally to teach "the basics" (the three modern Rs) is being given the noble responsibility of passing on all the other rich elements of culture by multicultural educators? Is it possible that the system that cannot transmit the culture of *homo monolinguis* with minimal competence is being asked to transmit the 5,000 spoken cultures that constitute the richness of the lived pluriverse at the grassroots–of the noneducated and the uneducated? Is the school cafeteria that cannot present hot dogs and hamburgers palatably to be the chosen political site for cultural workers serving *bhojan, comida,* or the other elaborate edible cultural delicacies fully and inextricably embedded in the commons of the pluriverse?[4]

Undoubtedly, many multicultural educators reflect the best sentiments and ideals found today within the educational system of *homo monolinguis:* aspiring to instruct about other landscapes of learning without deprecation; without reducing others' rites of passage as either touristic exotica or Stage One in the historical evolution of the educational system. Still, the multicultural classroom, however celebratory or respectful of cultural diversity, can only be a deliberately western site; transmitting *only* the culture/s of the West. In that limited capacity, while very useful for western "cultural workers" taking their first steps in hosting and hospitality towards the Otherness of the Other, it cannot do anything in terms of initiation into the cultures of the pluriverse. The pluriverse of cultural diversity cannot be nourished or regenerated through the project of education. For education is of modern western origin. Multicultural education is an oxymoron.

Learning and teaching preceded education and the educational system by millennia. The *paideia* of the Greeks or the *gyan* and *gurushishya parampara* of the Hindus of Hindustan must not be equated with education. The reduction of the former to the education of modern man and woman, or its importation into any brand of multicultural education is tantamount to colonization.

[T]he word "education" is of recent coinage. It was unknown before the Reformation. The education of children is first mentioned in French in a document of 1498. This was the year when Erasmus settled in Oxford, when Savonarola was burned at the stake in Florence, and when Dürer etched his *Apocalypse,* which speaks to us powerfully about the sense of doom hanging over the end of the Middle Ages. In the English language the word "education" first appeared in 1530–the year when Henry VIII divorced Catherine of Aragon and when the Lutheran Church separated from Rome at the Diet of Augsburg. In Spanish lands another century passed before the word and idea of education became known. In 1632 Lope

de Vega still refers to "education" as a novelty. That year, the University of San Marcos in Lima celebrated its sixtieth anniversary. Learning centers did exist before the term "education" entered common parlance. You "read" the classics or the law; you were not educated for life (Illich 1977, 75).

"In Lieu of Education" (Illich 1977) documents how the western (and, therefore, modern) mind coopts and colonizes the Other–whether of the historical past or the contemporary present–in and through reducing their pluriverse of diverse and incommensurable cultural patterns and styles of teaching and learning, placing them under the universal umbrella called "education."

While the global mission of the Church is to save souls, the global mission of the educational system is secular salvation. The noblest variety of secular salvation saves the mind of the individual from remaining stunted or from rotting; while the most "practical" or "pragmatic" is defined by the market for employment; the holy "job market." Education shares other elements with Religion.
Schooling and education are related to each other like Church and religion, or in more general terms, like ritual and myth; it is mythopoetic, and the myth generates the curriculum through which it is perpetuated. Education, as the designation for an all embracing category of social justification, is an idea for which we cannot find (outside Christian theology) a specific analogue in other cultures. And the production of education through the process of schooling sets schools apart from other institutions for learning that existed in other epochs (Illich 1977, 76).

Illich's historical journeys into noneconomic cultures, western and other, help us discover that *homo educandus* is necessarily *homo oeconomicus*–a modern mutant in the East as in the West. *Homo educandus* represents the historical emergence of a new kind of human being: who *needs* education in order to learn or live well. *Homo educandus* radically differs from *homo sapiens* or *homo faber.*

"[T]he idea that man was born incompetent for society and remained so unless he was provided with 'education'" became a new consensus among the elites in the West only in the early seventeenth century. With the spread of this modern "certainty," education came to mean the inverse of vital competence. It came to mean a process rather than the plain knowledge of the facts and the ability to use tools which shape a man's concrete life. Education came to mean an intangible commodity that had to be produced for the benefit of all, and imparted to them in the manner in which the visible Church formerly imparted invisible grace. Justification in the sight of society became the first necessity for a man born in *original stupidity,* analogous to *original sin* (Illich 1977, 75-76, emphases added).

For the uneducated or noneducated or miseducated social majorities, their own ways of life are genuine alternatives to the progressive pollution, exploitation, and opaqueness now observed in rich countries. But "the dethroning of GNP cannot be achieved without simultaneously subverting GNE–Gross National Education, usually conceived as manpower capitalization" (Illich 1977, 90-91).

To resist GNE, alternatives to education are both necessary and available in the Two-Thirds world. Realizing this in the beginning of the twentieth century, Gandhi offered *Nai Talim* as an antidote to the education of the brown "intimate enemy" (Nandy 1981) as well as the White pedagogue. Gandhi's *Nai Talim* keeps alive his peoples' subsistence economy. It celebrates the richness and the dignity of bread labor–which weaves more strongly the fabric of the local community, emphasizing the autonomy and self-sufficiency needed to marginalize the economy of *homo oeconomicus* and *homo educandus. Nai Talim* teaches *Yama-Niyam;* the regeneration of *Varna Vyavastha; the sanskriti* of *dharma*...nurturance *of buddhi...Jnana (Gyana)... atmagyana.* None of these ideals are translatable into the language of educators (Gandhi 1946, 1970; Prakash 1993; Vora 1993).

The "bread labor" central to *Nai Talim* keeps pyramidal hierarchies at bay. Economic social pyramids are incompatible with the common sense of *Nai Talim. Bhaniya pan ghaniya nahin,* observe Gandhi's fellow Gujratis, when speaking of people who possess education, while lacking sense and sensibility. In fact our study of education reveals that wherever people abandon their own forms of cultural initiation, they lose their *common sense;* their cultural sense and sensibility developed in their *commons.* Since Aristotle and until the seventeenth century, common sense was the sense bringing harmony and

correspondence to all other senses. It should not be looked for in the pineal gland, as Descartes suggested; or in the universal reason proposed by Bacon. Common sense is what people have in common; the sense that can only be found in community. Gandhi's common sense tells him, as Illich's common sense reveals for us today, that an "egalitarian economy cannot exist in a society in which the right to produce is conferred by schools" (Illich 1977, 91).

Multicultural education promises all cultures a more equal share of the educational pie constituted of the nonsubsistence economy–national, international and global–whether liberal, socialist, or neoliberal. Undoubtedly, multicultural education is a step forward in the educated person's quest for better representation; for more inclusion; for less violence; for more respect. Unfortunately, these ideals are aspired for within the very economic system that wipes out other economies–of household, commons, and community; sustaining, thereby, the educators' mythopoesis: that there are no authentic alternatives TO education; that education is a universal good; that, therefore, the educational system, currently broken, must be reformed and revamped. The same system that helped smash the languages, customs and traditions of the commons can be reformed to teach the knowledge and skills required to build communities; or be reformulated to nourish a pluriverse.

Multicultural educators run with the fox while hunting with the hound. Empowering individuals, communities, and cultures, multicultural educators promise equal educational opportunities–personal, communal, and cultural–for joining the global project of education...defined by the mindset of *homo educandus*, with his moral language of Human Rights.

Human Rights: The Contemporary Trojan Horse

Human rights are only 200 years old. The ideology and the institutional arrangements of human rights were born after unprecedented forms of social and personal deprivation took root among the "developed" peoples and places of this planet. The regime of the nation-state, fusing nationalism and statehood, was constructed at this same time, to keep the social order in a society exposed to the forces of the modern market, reducing the human condition to that of *homo oeconomicus*.

The birth of universal human rights is inextricably bound up with the global manufacture of the independent western nation-state. Following five centuries of colonialism, the post-World War II universalization of this western institution continues to deal severe blows to all other political organizations; most particularly the commons cared for or "administered" through village self-governance. The evils and injustices of traditional village governance, masterfully documented by Achebe (1961, 1985) and others, are minuscule in scale or severity when compared with those of national governments. Yet these as well as their contemporary descendants, the transborder corporate superstructures constituting the "Global Project," are being legitimized as those responsible to uphold and safeguard the Gospel of human rights.

In the era of the global economy, not even the Great Wall of China poses an obstacle to the universalization of human rights. Thousands of determined participants fly over the Wall into Beijing to attend the Fourth UN Conference on Human/Women's Rights, intent upon their universalization, spreading them to every corner of the globe.[5] Grander and more global than all the other conferences now regularly held from Malaysia to Mexico to promote human rights, its participants seek to liberate and bring justice to all the oppressed peoples of earth. This justice calls for bringing one and all under the care of the global classroom for disseminating education.

For villages or cities across the globe, the moral currency of universalizable human rights is being newly minted, promising even to contain the immoralities of State governments (national or local) as well as international development agencies. This moral currency, conceived and created for the abstract "citizen," follows Hobbes in containing their meanness, brutality, greed and envy; while enjoining duties,

obligations, and responsibilities toward fellow citizens and flags. It replaces the traditional communal morality of peoples not reduced to modern individualism, either old or new (Dewey 1962). Functioning like the British pound, the American dollar, and other "hard" currencies, this equally "hard" moral coinage of human rights enjoys the same international status of preeminence as do the other coins of the economically "developed " Both monetary and moral currencies of the "developed" destroy and devalue the "soft" currencies of communities and peoples considered not only economically but also morally "underdeveloped." Following the colonial path of Christian missionaries (who saved primitive souls from pagan gods), their descendants, the delegates of human rights agencies, offer secular salvation: the moral or economic development of underdeveloped cultures. "One man one vote"-style democracy with parliaments or senates, a national economy that manufactures classrooms, courts, patients' wards, sewage, telephones, jobs, and flush toilets, are only some among the liberty and welfare rights promised by independent modern States. At the nexus stand the classrooms of school, college, and university.

This style of "national independence" is incompatible with cultural autonomy.

[H]ow easily under the cloak of "Human Rights" a particular "civilization" may penetrate into others and disrupt the fabric of different cultures...We can strive for success in international markets, but no people can live from a borrowed myth...No culture, tradition, ideology, or religion can today speak for the whole of humankind, let alone solve its problems...Human Rights is the fruit of a very partial dialogue among the cultures of the world (Panikkar 1995, 112-113).

Human rights are social constructions or cultural *inventions.* They are not, as some adherents claim, natural discoveries.[6] Human rights are but the formal, juridical expression of a *specific* mode of being and living. They are defined by the kind of man, woman, and child who has appeared on earth only very recently: *Homo oeconomicus,* the possessive individual. First born and brought up in the West, this modern "person"–the individual self–is now threatening the whole world with the plague of endless needs, legitimized under the moral mask of human rights.[7]

We need to be aware that the very notion of right and law is a western notion...It is but a window among others on the world, an instrument of communication and a language among others. The word not only is non-existent among the indigenous traditional cultures, but it will never come to their minds that human beings can have rights...For them, it is difficult to understand that rights or entitlements could be homocentrically defined by a human being. That they, furthermore, could be defined by a sovereign state, that is, by a collection of sovereign individuals, is almost ridiculous (Vachon 1990, 165).

The processes that created *Homo oeconomicus* (the possessor of human rights) disembedded the economy from commons, community, and culture, while constituting it as an autonomous sphere. These processes "evolved" and mutated over almost a thousand years (Polanyi 1975). After the enclosure of the commons, there occurred a radical rupture with the traditional past. Some describe this rupture as the transition to the capitalist mode of production (Marx); others as the transition from the aegis of gender to the regime of sex (Illich); and still others as the birth of the modern age. Economic man was born after this rupture. The individual self was created before, apparently with the invention of the text (Illich 1987a, 1993), but he was still immersed in a religious cosmology (Cougar 1973). The economic individual, a new genderless being, mobilized principally by self-interest, and dedicated to optimizing his behavior (the rational use of scarce means for unlimited ends), could only acquire his place in history when the idea of equality had become a popular prejudice (Marx), and when the assumption of scarcity, which the patron saints of economics transformed into a social law (Esteva 1980, 1992), had been established as a governing principle of society.

This "evolution" has transmogrified peoples and cultures so profoundly that previous virtues are now reduced to vices, and traditional vices have been elevated to virtues. Hopes have been transformed into expectations; the richness of tradition into a burden; wisdom into backwardness; awareness of self-limitation into apathy or lack of initiative; frugality into the inability to compete for the maximization of

utility; envy into the motivation that heralds progress and economic growth (Dumont 1977; Esteva 1992; MacIntyre 1981; Orr 1992). Vitality, the daily expression of the condition of being alive in and through being entwined or intertwined with others and the world, has been transformed into mimetic desire (Girard 1978) to "catch up" and compete. Desires have been transformed into needs, and needs into rights.

The nation-state, as a political regime constructed to put order in the operation of the national economy, was constituted as a social pact among individuals, to whom it attributed, for the simple fact of being members of the State, the right or the *entitlement* (Sen 1981) to the satisfaction of their needs by the Market or the State. Looking for the modern definition of human nature, we discover *needy man:* dependent on economic goods and services–the objects that satisfy his needs for survival and flourishing. The tautology of the modern definition of human beings is their subordination to the laws of scarcity.

The founding fathers of economics saw in *scarcity* the keystone for their theoretical constructions. They postulated it as a universal condition of human society, with axiomatic value. Economists have even been able to transform their finding into a popular prejudice, a self-evident truism for everyone. "Common sense" is now so immersed in the notions of economic "rationality" that it is very difficult to recognize the economists' premise of "scarcity" or "rationality" as mere leftovers of modern science; words which, like others, fell into and colonized ordinary language and perception.

Wherever the law of scarcity is already enforced as the necessary accompaniment of economic principles, a social space is created for demanding the enforcement of some variety of human rights. But the demand for the universalization of these rights is also advancing through contagion into spheres where they still express the protection of freedoms. Once the scarcity of schools and teachers is established through the redefinition of learning and preparation for living, the right to compulsory schooling is enforced. The recent scarcity of human organs (for transplants) or genes (for genetic engineering) has already created the debate about the corresponding rights, which are starting to be included in national and international codes. Freedoms like those associated with cultural practices (in birth, marriage or death, for example) are increasingly formulated in terms of rights.

The final step in the global takeover by the monoculture of human rights is now the object of an international debate. Loud voices are currently claiming that the "community of nations," the United Nations, should be endowed with powers and resources to apply the global right of intervention anywhere on earth "for humanitarian purposes": that is, with the explicit object of protecting human rights. The codification of that new right formally breaks one of this century's international rules, based on the principles of peoples' self-determination and protection from foreign intervention in national affairs. Highly controversial, this "right" is being recognized as one more way to legitimize colonial interventions.

This charge, by now well founded and documented, expresses the very essence of human rights as colonial tools for domination. Colonialism always implied a kind of moral and political violation, something imposed by the brute force of the physically strong, with different kinds of ideological emblems used to legitimize such violation. The Cross coming with the Sword took different shapes–like development or democracy in the postwar era What is now under discussion would amount to the final consecration of the legal and legitimate right of colonial intervention...in the name of human rights.

We are aware that in packing into a few paragraphs such a complex transformation of the human condition, we leave ourselves vulnerable to the charge of controversial oversimplifications and interpretations. We assume that risk in order to give the bare outlines of a sketch without which few can appreciate our concern and our hope for the end of the global encroachment sought by the regime of these rights in general, and the welfare and liberty right of education, in particular.

The Nexus of Contemporary Domination: Education-Human Rights-Development

Education and human rights belong to the same discourse as development, with its web of familiar key terms and concepts: human resources, the global economy, growth, technology, progress, planning, production, science, standard of living, One World, participation, and democracy (Sachs 1992). Some of these key terms, like development or human resources have only been around for a few scant decades. Others, like education, are almost five hundred years old. Still others go back further yet–but now have transmogrified modern and postmodern meanings. Because of these recent meanings, all the terms and concepts of the education-development dictionary bear a certain family resemblance, belonging to the same vast family of modern or postmodern ideas and ideals. They reign supreme within the centers of the academy, as well as in the economy served by it.

Rather than calling it a family, it is more accurate to say that this conglomerate of ideas and ideals belong to a growing net: grand, vast, and global. The master weavers–educators, development planners, programmers, and other professionals–sit in classrooms, offices, and factories, weaving this great global net of education and development; of modern and postmodern cosmovisions floated into cyberspace; yet presented as down to earth and profoundly practical.

Keeping clear of God-given Edens, this mythopoesis reveals peoples of all places and cultures pulling themselves up by their educated bootstraps, joining the human quest for progress. This global net promises the whole world a full forthcoming catch: cleansing the land and the oceans of poverty and overpopulation, parochialism and bigotry, violence and oppression. With these ills strained out of the *conditio humana*, the "human family" can begin to enjoy the gains of empowerment and emancipation in the "global village"–decidedly democratic, multicolored, and multicultural.

In the reality separated from the myths by a grand chasm, wherever education and development travel (hand in hand), poverty and pollution increase; freedoms and autonomy decrease; monocultures of learning and living destroy the rich pluriverse of the diverse cultures of the social majorities. In the reality beyond its mythos, this vast industrial net does not catch and trap ills. Instead, it catches cultures; dragging out of their embedded cultural contexts the wondrous variety found in the lived pluriverse of teaching and learning, work and leisure, ritual and ceremony, food and dance, healing and dying, as well as all other cultural practices. Wrenched and uprooted from their traditional spaces, indigenous knowledge, skills and the arts of dwellers are trapped, killed, and frozen; to be microwaved and eaten in the fifty-minute period that lies between the bell that initiates class and the bell that terminates it.

As the dawning millennium manufactures new educational technologies, the scale and speed of the cultural catch gets bigger and quicker; similar to the ones currently threatening global industrial fisheries. The Destroyer is being destroyed by his own dance. This industry, joined by other forces of development and progress, are contaminating all the waters of the world with such success that even the creatures outside the net are threatened, endangered, or totally destroyed.

A growing minority of educators are recognizing the contamination and damage of the net cast by global development and education. Some seek to "green" education with interdisciplinary programs for ecological literacy. Others proffer multicultural literacies as a way for dispensing with the net of cultural and ecological destruction. Just as peace educators, fighting for disarmament, propose that education teach people to transform weapons of war into plough shares, multicultural educators propose tearing up the educational net that traps, kills, and destroys the cultures of the marginals, the dropouts, the silent ones. They teach themselves and their students to "think globally" rather than parochially; to become global citizens; to broaden their consciousness, extending their sympathies beyond the confines of national and cultural boundaries, embracing the Other in the global village.

We take heart from the efforts of all those working within the educational system to open up its doors, shut for centuries to the challenge of respecting the Other, to the survival and flourishing of cultural diversity. However, the further we walk beyond these doors being opened by critical multicultural educators, the deeper we enter landscapes of learning not marred by industrial civilization, the better we understand why authentic cultural practices are necessarily taught outside the classroom; there where the

notion of the profession has no meaning. The more respectfully we explore these cultural practices, the more clearly we discover the reasons why it is impossible to package the cultures of the other for transmission and consumption in the global classroom. Packaged for transportation to and consumption within the classroom, they must be severely uprooted; severed from the soils and waters, the cultural niches where they are born and the commons and community without which they must die out. Rendered extinct.

Multiculturalizing the classroom cannot save soil cultures from such a fate. However passionately committed to cultural diversity, the classroom must necessarily be the cemetery of sensibilities cultivated in commons and communities, central to the transmission and regeneration of soil cultures. Deities in stone and wood, stolen or bought "dirt cheap" from the peoples who worship them and sold to the museums of the West, become "priceless art." In the course of making this journey from the familiar world of shrines and temples into the alien world of museums, they are reduced from being worshipped goddesses of immeasurable power into the art, artifacts, and objects of another culture that emphasizes economic and aesthetic value, rather than spiritual significance. True, the deities of savages are safer in the museums that house and guard them with alarm systems and uniformed guards, keeping them out of the hands of thieves and marauders who sold them to the museums in the first place. But while preserving them from the processes of natural destruction and debilitation, they are radically transmogrified. Instead of being daily nurtured and worshipped with food and prayer, these deities sit behind glass; objects of serious research and study, or even plain and vulgar gawking by self-styled aficionados or "culture vultures."[8] The multicultural class threatens the cultures of the Other with a similar fate; seeking as they do to become the global site for cultural initiation.

The project of global development, only five decades old, offers an excellent perspective for deconstructing all contemporary multicultural efforts in educational reform.[9] In the global race for a spot in the Global Economy, Mauritania will take 3,223 years to "catch up" with the U.S.–we have heard development experts pronounce. By dropping out of the global race for development, by being themselves, Mauritanians are recovering their dignity TODAY. They do not have to wait for 3,223 years!

To be themselves, most of the peoples on earth (the social majorities) do not need education. Like all other modern "needs," the need for education has been a creation of the "disabling professions," privileged by their enterprise. People do not *need* to breathe when they are breathing; only when they are drowning, or otherwise deprived of breathable air. Similarly, in order to acquire modern "needs", people must first be deprived of their conditions for the good life of subsistence–in all of its diverse definitions. De-skilled (Braverman 1975) or weaned from their subsistence economy, they fall into the trap of needing a job, savings, welfare, daycare... Once their dignity or competence are no longer accepted or recognized without a diploma, they begin to need education. The destruction of the conditions of a subsistent good life is required to create education and the other "needs" of a very specific, culturally determined, life style–now established as a universal goal, transforming every man and woman into a needy subject with rights or claims for the satisfaction of those "needs."

To be themselves, free of the needs of needy *homo educandus*, the social majorities rely upon their own traditions of cultural initiation. Contrary to the myths of (professional) educators, the traditions of the Other are neither stagnant nor parochial. They have their predicaments, their limitations, their demonic dimensions. Yet, they also contain within themselves the seed for their own reform and regeneration; revealing the fact that "genius" is not the scarce commodity that only a few possess, but is abundantly and generously spread across cultures. This is neither to romanticize nor to turn a blind eye to the savage side of each cultural group. It is to recognize that just as savagery and violence are pretty widely distributed across all cultures, so is the genius to solve the predicaments experienced and faced differently in the pluriverse.

Apologies and Celebration

Prestigious places for locking things up, museums [and classrooms] are outside of life: in this way they resemble cemeteries (Hainard and Kaer 1986, 33, quoted in Appfel Marglin forthcoming, text in brackets added).

Among the people we deeply respect and cherish, some call themselves multicultural educators, while others call themselves human rights activists Are we betraying our colleagues, friends, and others for whom we feel enormous affection and admiration? Are we betraying ourselves and our work within the educational system?

Among our memorable teachers of our childhood as well as our adult years, we remember several priests with profound love and respect They were sent as missionaries to convert the pagans of the Third World. With hindsight, we recognize that they did the opposite of what their Bosses intended for them. Their respect for our ways offered a welcome respite from the evangelisms of their colleagues Refusing to push their God on us, they celebrated our pagan gods with us. Without embracing our pagan gods as theirs, they joined us in nourishing our pluriverse. In their eyes, we saw we needed no salvation. Their hospitality to our religion extended itself to the other dimensions of our cultures. While they taught in school, they did not teach school They did not try to school or educate us. They did not try to conscientize or empower us.[10]

Instead, in their gaze, we saw our own power reflected; no one had to give us the power we already possessed. We exercised it by tapping into our own capacities for courage, faith, and hope. In the spaces we created together, sheltered from institutional authority, we could be ourselves–unique, personally or culturally. Seeing ourselves reflected in their eyes, we learned to celebrate the singularity and particularity of our commons, commonness, common sense.

In and through these I-Thou encounters, we learned what it means to be hospitable to the Otherness of the Other. Because they embraced our Shiv, Ganesh, or Ganapati, our Votan, we took their Christ as one of our *huacas*. Our pluriverse was enriched by the encounter with theirs; as theirs was enriched by the encounter with ours. Neither educated the other. These encounters in the culture of the Other, in intercultural dialogues,[11] took us deeper into our own cultures–beyond education

It is said that "the truest eye may now belong to the migrant's double vision" (Bhabha 1997, 30). If there is even a tiny grain of truth in that observation, then the pain of migrations between the different worlds we traverse may yet bear some fruits... Even the bittersweet ones may be savored and enjoyed.

Following in the footsteps of these open, cherished teachers, we seek not to impose our rejection on anyone. We know very well that education for jobs, like the family car and flush toilet, are felt as basic needs for many millions. They cannot survive, or have the good life as they understand it, if those needs are not satisfied by the market or the State. They cannot conceive their own way of living without the consumption of goods and services now defining their survival kits. We are not arguing that they be deprived of their "rights" to satisfy those "needs." All we are emphasizing is our solidarities with the millions saying "No, thanks" to all those "needs" and "rights"–thus rejecting the universality of development and education. Inspired by the diversity of the lived pluriverse, we seek *limits* for education and *respect* for different ways of living, learning, and teaching, through political controls. These reveal to us the importance of abandoning oxymorons like multicultural education. We locate our hopes for preventing cultural meltdown in the lived pluriverse.

All those who want to bring the whole world under the umbrella of human rights insist that that is the only way to satisfy the basic needs which define people *qua* human beings Education fulfills one of these needs. In the wake of education, the cultures of subsistence collapse. Education is not the only human right that does them in. All the human rights claimed and awarded to the modern individual self

have the same devastating impact on those whose cultures of subsistence have allowed them to marginalize the economy. Human rights are as much of an historical fact as is education and *homo educandus*. In the story of humans on earth, the notion of education as a human right has a clearly identified beginning. Therefore, it can have an end.

The end is being written into the epic of the people at the grassroots.

The social majorities have next to no school. They will have neither school nor family car, flush toilet, and other pieces of the American dream–if the Club of Rome and other reports are telling the truth. Structural impossibilities prevent its universalization. That is their blessing. They do not have to be deschooled; for they have never been schooled. The goodness, the adequacy, the richness of all the reasons given for deschooling are daily demonstrated to us by the social majorities, creating their footpaths beyond the superhighways of education by walking them. They daily demonstrate for us that their languages, their traditions, their cultures subsist without the huge bureaucracies that trap the educated, faithfully running the educational race to be Number One.

Hosting the Otherness of the Other

No expert knows everything about every place, not even everything about any place (Berry 1990, 5).
The only true and effective 'operator's manual for spaceship earth' is not a book that any human will ever write; it is hundreds of thousands of local cultures (Berry 1990, 166).

It takes a whole village to raise a Zapoteco or a Punjabi child. We have heard that the same view is held by other peoples. Within the setting of the classroom, how do we bring you into our cultural space, revealing what it means to be a Punjabi or a Zapoteco?

Every time we enter the classroom, it is akin to being in cyberspace. We know we have stepped outside the realms of our cultural spaces. How do we initiate you into our cultures in classrooms, whether in or out of cyberspace?

It takes a whole village...No, we cannot go it alone–classroom style–to teach you about ourselves. Within the classroom, we cannot be of much use to you in your quest to enter our cultural space. Then how can we presume to initiate you in your culture–let alone the culture of the unknown Other?

We know that we do not know how to bring you along to savor the flavors of our vernacular worlds. We know that the lived pluriverse–of spoken vernacular tongues, of feasts and flavors, of suffering and celebrating–cannot be reduced to *information*. It is too rich, alive, and vibrant to be keyed into the memory bits and bytes that run the educational industry today.

This reveals to us our inability to be genuine guides in the rich worlds of others' cultures. To enter those worlds, only the communities themselves and their elders can be good guides: those who know how to raise the young to maturity without classrooms and textbook experts; how to sing the river *sutras;* how to remember the tongues with which they speak with the deer, the otter, and the bear; how to grow the corn so that the soils never depart; how to harvest a whole year's food with three inches of rainfall; how to make a gift of soil while we only know how to make human waste; who feel no need for lawns, yoghurt makers, or even air conditioners when temperatures soar to 140 degrees in the shade; who know how to speak to the trees and plants; who have a hundred different words for snow; who can grow four hundred species of potatoes in one small village; who know...all the things that we cannot imagine...not even in our dreams...To Thou and thine we express our shared hopes of finding the strength and courage to walk away from the mirages of global prosperity created by education.

If you do not want to be reduced into the individual self stitching together his own individual designer-made or sewed-up cultural identity (Bhabha 1994), you are not alone; you are a part of quests being embarked upon by millions.

The social majorities are not fools even if they are not "learned." Without being learned, they are learning to be wary of the mirage of equal educational opportunity that earlier on seduced them from their

places They are learning to stay home, learning the ways of their cultures, by walking on the footpaths of their dead, their elders. They have not forgotten their cultures, their landscapes of teaching and learning that lie outside the classroom. They know that the latter cannot be encased within the limits and confines of books, libraries, museums, computers, and other tools of their oppressors. Standing on their own soils, they need no experts to teach them how to nurture and be nurtured by their worlds.

We humbly acknowledge our ignorance before you. We cannot bear to keep you in our expert educators' clutches. Go forth with our good will to what you already have...with eyes wide open to the cultural traps created by the human rights-education-development-progress global net.

We hope you and your descendants will enjoy the dignity of your tribe, your culture, your places, your ways of living and learning to regenerate your spaces We hope we will not seek to smother your cultural spaces with our certainties; nor you, ours.

We hope you will be hospitable to our ways. And we, to yours.

Notes

1. For an account of alternatives to modern law and punishment among the North American Indians, see Lauderdale 1991.
2. For a detailed analytic study of the counterproductivity of the educational system, see Green 1980.
3. The word "problem" was used in Geometry to define a puzzle of logic with only one solution. It is now a plastic word (P'rksen 1995), without specific denotation. Among its connotations, it alludes to real life predicaments, difficulties, situations, that a professional can formulate as a "problem" whose "solution" necessarily includes professional advice.
4. For an extended discussion of the cultures of community embedded *comida,* see Esteva and Prakash, forthcoming.
5. See the "Platform for Action," that emerged out of the UN Fourth World Conference. Each statement of the 12-Point Platform is either an expression of concern regarding the violence against women, or a demand for universalizing the rights enjoyed by the economically privileged in the "developed" world.
6. "Natural rights" were claimed as the foundation for the creation of the modern nation-state. They are no longer legitimate. In this century, it is universally accepted that universal human rights are the product of *reason* and agreement, a *covenant.* How, then, can they be universal if the majority of people on earth do not share that culturally specific reason and did not take part in the covenant? The United Nations Charter is claimed to be signed by "We, the Peoples..." It was convened only by governments, which can speak in the name of their peoples only in formal, legal terms. For the current discussion on human rights, see International Conference on Rethinking Human Rights 1994.
7. On the history of individualism and *Homo oeconomicus,* see Louis Dumont 1977. For a penetrating critique of the monoculturalism inherent in the notion of human rights, and a defense of radical pluralism, see Raimundo Panikkar, especially 1995, and Vachon 1990, 1991, and 1995b.
8. The American Indians and the "community of the Museums" clashed when the latter was trying to establish its code of ethics for their collections on Indian culture. They argued, using the language of rights.

   For the museums, a) a people has the right to learn about the history of mankind, not only about its own ethnic group; b) the Indians do not give much importance to the body, but to the spirit; and c) the museums work in the name of science.

   For the Indians, a) collecting "cultural elements" represents profanation and racism; b) life is a cycle, starting with birth and ending with death, a cycle that cannot be broken; and c) culture is more important than science.

   Discussing the return of Indian artifacts to their original places, the museums argued against that idea: a) if that were to happen, in a century no one will be able to learn about religious objects (which the museums have the responsibility to protect); b) these objects are not only pertinent to their producers; c) the Indians do not know how to conserve these objects–calling all of them "sacred;" d) all the objects taken by the community of museums are studied in a respectful way.

   The Indians counterargued: a) the sacred objects have a key importance for the survival of Indian cultures, and they are a lot more important to perpetuate them than for the education of new generations of Whites; b) they were the *original* producers of the objects; c) the museums cannot be against the sacred values, according to which the objects "devour themselves"; d) they should only be studied and interpreted by the tribal peoples whose objects they are. The Indians also pointed out that their cultures do not have a word for "religion:" "spiritual thinking, values and duties are entirely integrated to social, cultural, and artistic aspects in daily life. That unity of thinking is the Indian 'religion'."

The whole discussion was documented and examined in Cardoso 1990.

9 While not describing his project of ecological literacy as "multicultural," David Orr offers an interesting explanation for why education and ecological regeneration are incompatible; why "environmental education is an *oxymoron*" (Orr 1992, 149).

10 Some human rights activists are joining in solidarity with others to struggle against human rights violations without educating them in their catechism. The national or international laws are but a power abuse, imposed on all people, who ignore them or actively oppose them. Violations of human rights amount to an abuse of the abuse. It seems legitimate to struggle against them, if and when such struggle does not convey cultural destruction. For an analysis of the limits of this struggle as well as an elaboration of the ways in which human rights are a contemporary Trojan horse, see Esteva and Prakash, forthcoming.

11 For a rigorous examination of the present conditions for an intercultural dialogue, see Panikkar 1978, 1990, 1993 and 1995, as well as Vachon 1990, 1991/1992 and 1995a.

Impact of Adult Education on Women - A Comparative Study of Three Implementing Agencies In Andhra Pradesh

Sita Vanka[1]

The world of today is undergoing a rapid social, political, economic and cultural transformation due to the scientific and technological advances and explosion of knowledge in various spheres. Moreover, development theory and practice, which in retrospect, has placed undue emphasis on industrialisation and increase in the GNP, has been reapprised. The result is, not only a growing realisation by one and all that the real wealth of a nation is its people - both men and women, but also the initiation of concrete efforts to bring back, "people" at the centre of development "to build a new people's world order" (HRD, 1990:2). Successive Human Development Reports (HDR) addressed and examined different human development issues and demanded that "gender issues be addressed as human rights concerns" and called for "engendering the human development paradigm" (HRD, 1995: 23). The simple but the far reaching message of the report is very aptly summed up thus ."... "Human development, if not engendered is endangered" (HDR, 1995: 1). This brings us to the special role the women are expected to play towards the fast approaching 21st century, as equal partners in the process of national development. A meaningful participation in development, however, presupposes "acquisition of knowledge or literacy" and has been rightly included as one of the Human Development Indicators (HDR, 1996: 32).

Women and Education

Education for women has twin objectives to achieve. Firstly, it is not only a means to achieve development and fulfill other development goals but also an important aspect for women's development itself. The reality with regard to women's education, however, reflects a sad story. At the global level, 31.4% of the women are still illiterate as against only 18% illiterates among men. The percentage is much more in the developing world where 41.2% constitute illiterate women (as against just 22.4% for men). India, with more than 64% of illiterate women, accounts for the second highest number of illiterates in the world. (HDR, 1996: 56). It becomes, imperative, therefore not only to eradicate illiteracy but also initiate steps to the universalisation of education among women.

Secondly, education as an instrument of social change and transformation, helps women to overcome the social, cultural and psychological barriers and enables them to participate as equal partners in development. Education leads to a better perception of self and brings about attitudinal changes among men and women. It helps to inculcate values of gender justice and gender equality, thus paving the way for the "empowerment" of women. (IX Plan Approach Paper, 1997: 97). These reasons, therefore, compel a special focus on women's education.

The Indian Experience

India could boast of a rich cultural heritage and tradition of learning with regard to women's education. It is a historical fact that during the Vedic period, women enjoyed a much higher socio-cultural esteem, had access to all branches of knowledge and took part in religious, cultural, ideological and

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philosophical discourses irrespective of gender differences. (Altekar, 1938: 14). The post Vedic period was a witness to a diminishing position of women. (Pramila Thakersay, 1970: 1-14). This continued in the medieval India and the advent of the British considerably weakened the traditional institutions . (Shah, 1989: 13).

The Indian freedom struggle accorded women's education a top priority and the post-independent India saw to it that it is guaranteed by the Constitution of India. Unfortunately, even after 50 years of Independence, the problem persists in alarming proportion as is evidenced by the slow growth rate of literacy among women. (Table-1 pg 158).

Efforts to tackle the problem of women's literacy were attempted half-heartedly by both the centre and the states. These scattered efforts at women's education were sought to be co-ordiated in the first structurally serious adult education programme launched nation-wide on October 2, 1978, in the name of the National Adult Education Programme, with the object of providing education to 10 crore adults in the age group 15-35, within five years (NAEP, 1978: 2). Directives to organise atleast 50% of the AECs for women in every state were issued. But the programme has not been effective as was expected. (Review Committee, 1979: 101). The National Policy on Education (1986) reiterated the importance of women's education, which was spelt out, clearly in a saperate section entitled "Education for women's equality" (NPE, 1986:6). The "Mission" Approach (1988) and the current "Total Literacy Campaign" (TLC) which is in operation in 336 out of the 448 districts planned in 20 states and 4 union territories are aimed at achieving total literacy in India by 2005. It is thus evident that name plates were changed overnight and became the fashion of the day to suit the powers to be, with the result that although the literacy level has risen, the total number of illiterate women (age group 7+) also increased considerably from 182.91 million in 1981 to 200.53 in 1991 as against the increase in the number of illiterate men from 120.90 million in 1981 to 128.36 million in 1991. (Census of India, 1991). The statistics clearly reveal that the increase in the number of female illiterates is more than double that of men. The fact that the female illiterates constituted more than 60% of the total illiterate population and 193 districts in India have a female illiteracy rate of less than 20% and the coverage of women through the adult education centres (AECs) is only around 41% is evident of the acute situation (Census of India, 1991). Moreover, the urban-rural, category-wise and regional variations compound the problem.

Andhra Pradesh (A.P) with a female literacy rate of 32.72% presents an equally challenging situation. It is the least literate state among the southern states and also had a very slow growth rate in female literacy. The Hyderabad district, inspite of the state capital located here and having access to educational opportunity, still has vast percentage of female illiterates - 37.44% (Education For All - The A.P. scene, 1994). Realising the gravity of the situation and following the policy directive, the State of A.P. is taking an active part in the eradication of illiteracy through the TLC approach, which is in operation in 22 out of 23 districts in the State and aims to achieve total literacy by the year 2005. In addition to the Government sponsored programme, the NGOs and the universities are actively participating in the eradication of illiteracy in the State. Research therefore, becomes imperative to provide the needed feedback to the programme implementors/policy makers.

Evaluation Research on the on-going programme of adult education dominates the field of adult education research (Patel, 1994: 34). The government commissioned about 88 evaluation studies to study the various facets of the programme right from the inception of the programme in 1978. (See Directorate of Adult Education, 1994 for a review). While it has been recognised widely that the problem of illiteracy is grave amongst women in India, researchers in adult education or women's education have neither paid adequate attention to examine gender issues in adult education nor have undertaken systematic research on women's literacy (Dighe and Patel, 1993: 3-14). Of the 88 Government sponsored evaluation studies conducted by various agencies, only 2 of them focus specificaly on women. Thus, gender issues in adult education has remained a marginal area of inquiry in the field of adult education. (Patel, 1996: 28-34). Moreover, the scanty literature included women in the sample, but no serious efforts were made to

understand the extend and nature of women's participation and the impact of adult education on their lives. (Patel, 1996: 31).

The present paper is an attempt in this direction and seeks to highlight the results of a comparative study of the impact of adult education programme on women as implemented by three major implementing agencies in the Hyderabad district - the Government, the University sponsored Osmania University's centre for Adult, Continuing Education and Extension (CACE & E) and an NGO - Mahila Rights Protection Unit (MARPU). An attempt is specifically made to examine the results of learners' achievement as provided by each agency at the end of the course duration (10 months) with the results of a test administered by the researcher to measure the impact of the programme on women.

A total of 613 women learners from about 70 AECs distributed in the three agencies were administered the test. Scaling techniques were adopted to measure their scores in their achievement in the three components of the programme - Literacy, Functionality and Awareness.

Impact of the Programme on Women

One of the most important methods of measuring the success or otherwise of the agency is the assessment of its impact on the beneficiaries. No doubt the "Protographic image" of the appraisals, evaluations and reports provide an insight into the strengths and weaknesses of the agency but examining the impact of the programme provides an opportunity to understand the real gains of the total exercise. An attempt is made to discuss the results of the test administered as against the learners' achievement provided by the agencies concerned, in the three components of the programme - Literacy, Functionality and Awareness. The guidelines of the government were followed in the design and the administration of the test, to facilitate meaningful comparison. The 'Functionality' and 'Awareness' tests were issue based and the literacy test was in reading, writing and numeracy.

(a) Literacy: The literacy skills comprised of reading, writing and numerical skills. A neo-literate is expected to read with a certain level of comprehension to complete the course. If this is the yardstick, the results indicated a "poor" performance by the learners in the Government (18.0 percent) followed by an "average" performance in the CACE & E (27.6 percent) and a "better" performance in the MARPU (53.5 percent). It could also be noticed from the results (Table-2 pg 158) that as the difficulty level of the items increased, there was decrease in the proficiency level in all the agencies.

A better performance was evident in the writing abilities with 60.6 per cent of the women in all the three agencies appeared "good", in their writing abilities with MARPU women accounting for a major portion of them. (84.5 percent). The women thus showed better proficiency in their writing abilities than the reading skills in all the three agencies and there is no reason why the same results cannot be repeated in their reading skills (Table-3 pg. 158).

The results of the numerical test appeared to conform to the trend in reading and writing abilities in the three agencies. (Table-4) with unsatisfactory performance by both government and CACE & E women, compared to the 'good' showing by the MARPU women (82.3 percent).

The overall picture relating to the achievement in literacy - reading, writing and numeracy - shows MARPU ahead of the Government and CACE & E in all the three R's. The result also does not reflect the learners' perception of the benefits of the programme to the acquisition of literacy skills in the Government and the CACE & E.

(b) Functionality: One of the fundamental objectives of the programme is the upgradation of the functional skills. Though the emphasis has always been on educating the women and thus making them true participants in the developmental and democratic processes of the country, but ironically the findings reveal that inspite of the urbanised surroundings and exposure to the media, their functional knowledge was restricted to the facilities of immediate survival and interest alone like ration shop, cleanliness etc., in

all the three agencies in a fair measure. They were not apprised of the schemes and institutions meant to provide them benefits of far reaching implications. (Table-5 pg. 159). Admittedly, the acquisition of functional knowledge by itself will not lead to such knowledge being put to use, unless other circumstances enable the individuals to act. But, all the same, non-acquisition of such skills certainly deprives the women of their share in the family, employment, and ultimately the fruits of development.

(c) **Social Awareness:** "Social awareness" is one of the most important components of the programme. The results clearly show that the exposure of the women to the AECs has not brought about the expected change in their beliefs, attitudes, perceptions and "awareness" levels. The "traditional" role of a woman confining to the house, taking care of children and male domination in the family was agreed upon by a majority of women in all the three agencies. (Table-6). Despite their exposure to the AEC, it is surprising to note the women's negative attitude towards small family norms, immunization, compulsory primary education etc. in the government and the CACE & E which is bound to have far-reaching implications. Women in MARPU, however, comparatively displayed better awareness of the issues concerning them.

It is interesting to compare the achievement levels of the study as against the percentage of completed learners as indicated by the respective agencies (Table-7, 8, and 9 pg. 161). The comparison of the literacy levels was fairly easy, as the same yardstick was followed by the study and the agencies concerned as provided by the Government guidelines. The "functionality" and "awareness" test were issue based and their responses were taken in the form of "Yes" or "No". For purposes of comparison, the present study took only the "Yes" responses into consideration. Those issues over which the response was over 60 percent of the learners was treated as `good' knowledge of the issues concerned by a majority of learners. The "functionality" test contained 10 items and the "awareness" test contained 15 items.

It is clearly evident from the responses that there exists a gap between what has been reported by the agencies concerned and what has been achieved by the learners in the test administered. A clear case of misreporting of facts was not only found but it is painful to note that the misreporting has been universal among all the agencies. Though some amount of justification could be given on the gap between the number enrolled and completed it does not justify the exaggerated figure of successful learners in all the three agencies. The insistence and emphasis on record-keeping seems to have prompted the "record-keepers" to manipulate the achievement levels. It also confirms the belief that while resources allocated are utilised, largely "paper-targets" have been achieved, in isolation to the objectives of the programme. For example, the government claimed 73.22% percent of the learners to have completed the course but the achievement level of the learners in literacy was only 31.0 percent and only 32.0 percent on an average was found to be in the other two components. The over ambitiousness of the CACE & E was no less in reporting inflated achievement levels, inspite of an `average' performance. The women learners in MARPU exhibited a `better' performance uniformly in all the three components according to the test, but appeared manipulated over their "official" figures, which are least required in view of their consistent good performance of their learners.

Conclusions and Suggestions

One of the most important methods of measuring the success or otherwise of an agency is the assessment of their performance and impact on the target group - the women learners attending the AEC. The adult education programme aims at making the adult illiterates, literate in terms of three components - literacy, upgradation of functional knowledge and creation of social awareness. The results clearly confirmed that the agencies have failed to attain the desired programme objectives. The programme has largely confined to literacy alone (Raji Sugumar, 1989 : 61) again with sharp variations among the achievement levels of the three implementing agencies. The achievement levels of learners in terms of "awarness" and "functionality" components is very discouraging. Attempts, therefore, should be made to

reorient the programme inputs in terms of learning experiences, teaching learning activities, learning material, organisational support, teaching methods etc.,

The comparative performance of the agencies and the impact of the programme on the women revealed that MARPU has emerged as the single implementing agency to have made the desired impact on the learners' achievement levels in the three components. The efforts of the NGOs should be carefully studied for possible inputs into the government sponsored programme. Experience and efforts of the voluntary agencies in adult education programme have been established beyond doubt (Dighe, 1991: 55 and Jayagopal, 1989: 14). Instead of harping on the failures and short comings of a limited number of NGOs the recognition of the contribution of NGOs compels one to encourage them for efficient programme implementation especially relating to social-welfare administration. The poor performance of the government and the CACE & E was evident in the poor impact over their target group, thus pointing to a thorough overhauling in their respective programme design and implementation.

A comparison of the results of the tests conducted by the Research with those reported by the agencies concerned relating to the completed `learners' indicated a clear case of misreporting of facts and figures universally by all the three agencies. A less ambitious, well-planned and well-implemented programme would thus go a long way than an ambitious, but ill-planned and ill-implemented programme of "targets". More of the same is not what is needed after decades of experience on the part of the agencies but based on data generated through monitoring and evaluation, the respective agency should pause, reflect, digest and synthesize to understand the limitations of their programme implementation rather than creating unnecessary fanfare and propaganda over their limited success. Ultimately the aim should be the eradication of illiteracy among women which demands promoting the levels of their participation in the programme and attainment of actual "education" and not dishing out of data.

Moreover, attempts to impart `literacy' alone can have only limited impact so long as the vast masses continue to be in poverty, as is made clear from the results of the test. An adult education programme, which also includes the economic and welfare components, is likely to solve, albiet partly, the fundamental problems of the country and stop the alarming rise of illiteracy among women. An income generating activity, is presumed to provide the necessary motivation to the women to come to the AECS. Serious attention, should therefore be focussed, on the programmes which are of economic benefit and which stress on the `productive' role rather than the "reproductive" role of women. Linking of the adult education programme with the various on-going programmes aimed at women's welfare - ICDs, DWACRA, NFE, STEP, Mahila Samakhyas etc. is the need of the hour. An "integrated approach" which calls for harmonisation of efforts on different fronts and the earmarking of funds as "women's component" to ensure adequate share of resources in all development sectors should be taken seriously to "empower" women. (Ninth plan Approach Paper, 1997: 97) Education, being the most effective instrument for empowering women, should attract attention as "development Sans literacy is unsustainable". (Seth, 1997: 26).

Ultimately, the key to the future of the nation lies in its human resources. A literate and skilled (WO) manpower is an asset. Viewed from this angle, the case for the eradication of illiteracy is fully established and deserves special attention in the policy agenda of the nation. In the final analysis, national development, without involving women as equal partners in the development process is unimaginable, as women constitute nearly half of the country's population. Adult education, thus, must aim at the twin objectives of women's "empowerment" through their active participation, in particular and human resource development, in general, to enable the country to enter the new century with far more vigour and confidence.

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Table 1
Progress of Literacy : 1901-1991

Year	Total Literate Males (in crores)	% of Literate Males to Total Popln.	Total Literate Females (in crores)	% of Literate Females to Total Population	No. of Literate Females for thousand literate Males
1901	1.50	9.83	0.10	0.69	68
1911	1.69	10.56	0.16	1.05	94
1921	1.98	12.21	0.28	1.81	140
1931	2.40	15.59	0.42	2.93	175
1941	2.12	18.09	0.97	4.09	199
1951	4.56	24.95	1.37	7.93	299
1961	7.79	34.44	2.76	12.95	354
1971	11.18	39.45	4.03	18.69	440
1981	16.62	46.89	8.21	24.82	494
1991	23.04	52.66	13.17	32.41	569.77

Source : Census of India, 1991

Table 2
Level of Reading Abilities Achieved by Sampled Learners in the Three Agencies

Sl. No.	Reading	Government	CACE & E	MARPU	TOTAL
1.	Sentences with comprehension	38 (18.0)	49 (27.6)	121 (53.5)	208 (33.9)
2.	Sentences	42 (20.0)	36 (20.13)	76 (83.6)	154 (25.1)
3.	Words	82 (39.0)	30 (16.9)	23 (10.1)	135 (22.0)
4.	Alphabets	48 (22.8)	62 (35.0)	6 (2.5)	116 (18.9)
	Total	210	177	226	613

Figures in the parentheses indicate percentages

Table 3
Writing Abilities of Sampled Learners in the Three Agencies

Sl. No.	Assessment	Government	CACE & E	MARPU	Total
1.	Good	86(40.9)	95(53.6)	191(84.5)	372(60.6)
2.	Average	42(20.0)	66(37.2)	27(11.9)	135(20.2)
3.	Poor	82(39.0)	16(9.0)	8(3.5)	106(17.2)
	Total	210	177	226	613

Figures in the parentheses indicate percentages

Table 4
Achievement Level of Sampled Learners (in Numberacy)

Sl. No.	Assessment	Government	CACE & E	MARPU	Total
1.	Good	72(34.2)	59(33.3)	186(82.3)	317(51.7)
2.	Average	64(30.4)	97(54.8)	22(9.7)	183(29.8)
3.	Poor	74(35.2)	21(1 8)	18(7.9)	113(18.4)
	Total	210	177	226	613

Figures in the parentheses indicate percentages

Table 5
Knowledge of 'Functionality' Issues by the Sampled Learners

Sl. No.	Facilities	Government		CACE & F		MARPU	
		Yes	No	Yes	No	Yes	No
1.	Essential Commodities through ration shops	178 (84.7)	32 (15.2)	159 (89.8)	18 (10.1)	189 (83.6)	37 (16.3)
2.	Savings Schemes	42 (20.0)	168 (80.0)	68 (38.4)	109 (61.5)	152 (67.2)	74 (32.7)
3.	Knowledge of Govt. Laws	49 (23.3)	161 (76.6)	02 (51.9)	85 (48.0)	149 (65.9)	77 (34.0)
4.	Post Office Transactions	67 (31.9)	143 (68.0)	84 (47.4)	93 (52.5)	138 (61.0)	88 (38.9)
5.	Concessions and Scholarships to Children	36 (17.9)	174 (82.8)	78 (44.0)	99 (55.9)	101 (44.6)	125 (55.3)
6.	Knowledge about Govt. and Democratic Process	39 (18.5)	171 (81.4)	49 (27.6)	128 (72.3)	120 (53.0)	106 (46.9)
7.	Cleanliness and Hygiene	101 (48.0)	109 (51.9)	129 (72.8)	48 (27.1)	191 (79.2)	35 (20.7)
8.	Income Oriented Scheme	49 (23.3)	161 (76.6)	42 (23.7)	135 (76.2)	179 (79.2)	47 (20.7)
9.	Importance of Women's Education	56 (26.6)	154 (74.2)	87 (49.1)	90 (50.8)	192 (84.9)	34 (15.0)
10.	Women's Unity and Organising Culture	42 (20.0)	168 (80.0)	49 (27.6)	128 (72.3)	186 (82.3)	40 (17.6)

Figures in the parentheses indicate percentages

Table 6
'Awareness' of Issues by the Sampled Learners

Sl. No.	Facilities	Government		CACE & F		MARPU	
		Yes	No	Yes	No	Yes	No
1.	The Welfare of the family is the concern of man	158 (75.2)	52 (24.7)	142 (80.2)	35 (19.7)	156 (69.0)	70 (30.9)
2.	Small family norms and family planning methods	99 (47.1)	111 (52.8)	86 (48.5)	91 (51.4)	149 (65.9)	77 (34.0)
3.	Child rearing is the responsibility of the mother	142 (67.6)	68 (32.3)	138 (77.9)	39 (22.0)	178 (78.7)	48 (21.2)
4.	Illiteracy leads to poverty	196 (93.3)	14 (6.6)	151 (85.3)	26 (14.6)	196 (86.7)	30 (13.2)
5.	Minimum Wages	42 (20.0)	168 (80.0)	72 (40.6)	105 (59.3)	120 (53.0)	106 (46.9)
6.	Compulsory primary education	62 (29.5)	148 (70.4)	62 (35.0)	115 (64.9)	138 (61.0)	88 (38.9)
7	Immunization of Children	101 (48.0)	109 (51.9)	89 (50.2)	88 (49.7)	129 (57.0)	97 (42.9)
8.	Use of Hospital for pre-natal and post-natal care	176 (83.8)	34 (16.1)	149 (84.1)	28 (15.8)	192 (84.9)	34 (15.0)
9.	Equality of women	64 (30.4)	146 (69.5)	36 (20.3)	141 (79.6)	118 (52.2)	108 (47.7)
10.	Legislation on social evils	72 (34.2)	138 (65.7)	68 (38.4)	109 (61.5)	138 (61.5)	87 (38.4)
11.	Clean drinking water	142 (67.6)	68 (32.3)	126 (71.1)	51 (28.8)	192 (85.0)	34 (15.0)
12.	Nutritious diet	128 (60.9)	82 (39.0)	119 (67.2)	58 (32.7)	176 (71.8)	50 (22.1)
13.	Bank loans, government loanns etc.	59 (28.0)	151 (71.9)	89 (50.2)	88 (49.7)	146 (64.6)	80 (35.3)
14.	Development for Women	69 (32.8)	141 (67.1)	49 (27.6)	128 (72.3)	176 (77.8)	50 (22.1)
15.	Non-Participation of women is due to their non-recognition of the value of Education	126 (60.0)	84 (40.0)	142 (80.2)	35 (19.7)	198 (87.6)	28 (12.3)

Figures in the parantheses indicate percentages.

Table 7
Completed Learners as Indicated by the Three Agencies

Sl No.	Particulars	Government		CACE & E		MARPU	
		No. of Centres	No. of Women	No. of Centres	No. of Women	No. of Centres	No. of Women
1.	Enrolment	278	7349	113	2999	40	896
2.	Completed	256	5381	113	1797	40	861
3.	Percentage of Success	73.22		59.92		96.09	

Table 8
Achievement Levels of Learners in Literacy According to the Study

Sl No	Literacy Achievement	Government	CACE & E	MARPU
1.	Reading	38 (18.0)	49 (27.6)	121 (53.5)
2.	Writing	86 (40.9)	95 (53.6)	191 (84.5)
3.	Numeracy	72 (34.2)	59 (33.3)	186 (82.3)
4.	Percentage of Success	(31.0)	(38.1)	(73.4)

Figures in parentheses indicate percentages.

Table 9
Achievement Levels of Learners in 'Functionality' and 'Awareness' According to the Study

Sl. No.	No of 'Yes' responses by Learners	Government	CACE & E	MARPU
1.	Functionality (10 items)	1 (10 0)	2 (20 0)	8 (80.0)
2.	Awareness (15 items)	7 (46.6)	7 (46.6)	12 (80.0
3.	Total (25 items)	8 (32.0)	9 (32.0)	20 (80.0)

Figures in the parentheses indicate percentages.

Classroom Managers At Grassroot Level:Reflections on Some Biographical Studies

N Sabharwal[1]
S Nagpal

Context

The present paper is based on the biographical research of nine NCERT award winning primary school teachers. The schools, where these teachers are working, are basically community based schools. The following main areas are discussed in the paper:

1. Psycho-social-educational background of the awarded teachers.
2. Modern pedagogical reforms in our culture i.e. capacity buildings of teachers.
3. Institutional linkages and research based educational development.

These areas are discussed and reflected against the theme of the conference: Development in Education, especially in the context of Education For All (EFA). The paper is concerned with both research and development and is very much influenced by cultural analysis focusing on the relation between everyday life and schooling as well as the biograhical aspects of these teachers professionalism.

Introduction

The primary education serves as the foundation for educational development and strengthening of human resources. Since independence. India has been making genuine efforts for reconstructing the educational system and to improve its quality. As a result, there has been strategic expansion of educational facilities all over the country. More than 95% of the country's rural habitation has primary school facilities within a radius of one kilometre. As part of the Common Minimum Programme, the UF, Govt. has proposed to make constitutional amendment to make elementary education a fundamental right for children of the age group 6 to 14 years. Despite concerted efforts made from time to time the cherished goal of universal elementary education (UEE) - universal access, enrolment and retention of these children in school and substantial improvement in the quality of their education has remained elusive. Dropout rate continues to be significant, retention in schools is low and wastage is considerable. Therefore, NPE 1986 and its revised version in 1992 has given unqualified priority to UEE. Previously educational planning in India focused more on provision of facilities. Now, it is being realised that to achieve the targets, full utilisation of these facilities is equally important. Thus, general improvement of standards of primary education calls for better equipped teachers who can meet the challenges of professional educational planning and management to improve institutional efficiency.

India has multilevel planning framework starting with the national level and coming down to the state, district, block and institutional level. Planning helps in optimal utilisation of facilities already available. In some organisations top manager - make all decisions and teachers and others carry them out. At the other extreme are those institutions where decision making is pushed down to the level of teachers. Micro planning reflects flexibility, local specificity and is based on participatory process in identifying areas of interventions, prioritising the interventions as also the local requirement. It should help in making schools community based, procuring local community's support by interacting with it to make educational institutions functional. Planning and management of education are two significant components of the strategy that need to be adopted. Teacher preparedness, enhancement in their level of

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motivation, commitment and dedication to the profession needs to remove the ills of primary education and to achieve the goals of NLM, UPE, UEE and EFA.

What are the roles and functions of teachers-managers-heads of different grassroots level institutions with regard to the changing conditions particularly when we are at the threshold of 21st century. What professional competencies and psycho-social traits be considered and enhanced in teachers so that they are able to confront the social, cultural and economic needs of the changing society, bring renewal of education through ideas, methods and practices, act as agents of change and promote meaningful and effective partnership among schools, parents and community. These and many similar themes have formed the agenda of many national and international conferences.

Teachers are the key actors for bringing change in classroom practices, school environment and institutional effectiveness Indeed the quality of education depends on the quality of teachers as they mould the minds, inculcate positive values and develop the character of students and meet their basic learning needs. In the coming years, life will have new tensions. To enable the children to cope with these tensions and to benefit from them when they grow up they should be able to realise new ideas constantly and creatively. For the attainment of all these new ideas; competent, committed and genuine professionals/teachers/managers who can change the system are required Such persons can help in bringing in the non enrolled, out of school children, children belonging to low socio-economic strata of the society to school and help in retaining them in the system till they complete basic education of desirable quality, and can work in unison with the local community for its upliftment The need of the hour, therefore is to develop and nurture the classroom practices, help school to achieve effectiveness by assessing learner's educational needs, help them to achieve basic competencies and help school achieve the goals of UEE. The present paper highlights the key-findings based on nine primary school teacher's who won NCERT award on Innovations in School Education during the period 1992-1995. These case studies highlight the kind of information that will be useful for educational planners, managers and administrators.

Objectives

The present study was initiated with the following objectives:

1. To assess the status of the NCERT awarded primary school teachers with regard to their background - educational, professional and psycho-social, and cultural.
2. To find out the perception of management / head of the institution/ colleagues and students towards the awarded teachers.
3. To find out the academic results of classes taught by the awarded teachers.
4. Genesis and process of award winning innovative practice with reference to;

- Origin, planning and execution of the innovative practice;
- Problems faced during the process of the execution;
- Process of solution of problems faced;
- Writing of the project report of the innovative practice;
- Motivational factors and the significant persons / events / anecdotes;
- Role played by management, principals, colleagues and any other significant person in the facilitation of the innovative work;
- Impact of the project on school effectiveness, classroom performance, teaching learning process, etc.

- Determining whether innovative process was a natural inner urge/ a sort of habit among these teachers or it was a process motivated by some external forces.

Methodology

A variety of data had to be studied in order to achieve the objectives of the study. Historically and currently clinical, psychometric profile method are the methods to be used in such a study. Biographical research method and case study methods are also used. The significance of these methods is to be understood in respect of the present study.

The aim of Clinical Method is to describe the individual in dynamic terms, in the expectation that a good picture of the person will make possible inferences concerning his occupational success and satisfaction. The underlying hypothesis is that genuine understanding of a person combined with insight into his innovative process situation, permits one to foresee the interaction of forces and predict the outcome. Three principal techniques of utilising clinical method are: case conferences, discussion with the person and the preparation of psychometric reports. (Super and Crites, 1968). The picture of the person obtained by these methods is probably as adequate as any other for the psycho-social and cultural description of an innovative teacher. These methods were made as objective as possible to make them suffice as the techniques of case appraisal of teachers. Meehl (1954) had suggested "open-ended" situation for this type of study. The open ended questionnaires and situations were developed accordingly.

The biography is the meaning and significance which the narrator attributes to the different event, explanations that justify changes in the course of life and the priorities that are expressed by the things that are much discussed and the things that are little discussed. The biography, thus provides insight into and information about individual's cultural and value points of views at the time when the case history is total.

The case study is the factual course of life with changes in place, time and events. Case studies are understood against a modern Indian , the context is experience as changeable with considerable open possibilities.

Biographicity as a research method expresses a subjective competence that grows with modernisation. It is on this basis that biography research is possible and extremely rich in perspective as a research method despite its modern explicit roots. The teacher's narratives are interesting for the insight into a diverse socio culture and as an implicit criticism of and alternative to the traditional understanding of schooling as if is still executed by officials from the top.

Tools and techniques

In the present study, research team preferred a more eclectic approach, i.e., willing to use whatever works and not feel compelled to use only the techniques which are compatible with the system valuable though systems are as means of making one conscious of the implications of the procedure used. All possible techniques of clinical method and psychometric tools (qualitative and quantitative) have been used.

In the psychometric profile method quantification is carried to permit the expression of the individual's summarised test scores in one total index. This shows how one innovative teacher compares with other innovative teachers across the country. The following tools and techniques were used by the team.

1. Advanced Progressive Matrices (Raven, 1962)
2. Logical Reasoning Test (Guilford, 1955)

3. Primary Mental Ability Test (Guilford, 1955)
4. Creative Aptitude Survey (Schaefer, 1971) adapted in Hindi (Nagpal, 1966)
5. Human Resource Development (HRD) Climate Survey (Nagpal, 1966)
6. Self-Concept Scale (Nagpal 199?)
7. Teachers Information Blank (Sabharwal and Nagpal 1996)
8. Teachers Interview Schedule (Sabharwal and Nagpal 1996)
9. Perception fo pupils about the innovative teachers (Sabharwal and Nagpal 1996)
10. Teachers job Satisfaction Scale (Kumar and Mutha, 1985)
11. Publications Reports and Creative Work of Teachers.
12. Personal Visits at the working place and interview with the teacher headmaster/principal/management, colleagues and pupils taught by the teacher.
13. Controlled observation of the teachers behaviour in the classroom and appraisal of their work by the research team.
14. Open-Ended Questionnaire to study the process of the genesis, execution and completion of the innovative work along with its impact on the school effectiveness.

Sample

Nine Primary school teachers who received NCERT award during 1992-1995 for their innovations in school education were selected. The sample comprised both male and female teachers of rural and urban sectors and working in government, private, central and municipal corporation managed schools. The following table gives the detailed view of the sample.

Table -1
Sample of the Study

Code	Sex	Age	Teaching experience	Location	School	Qualifications		Year award
NK1	F	45	25	U	NDMC	M.A.; B.Ee	M. Ed.	92-93
AK2	F		19	U	NDMC	MA, BEe	M. Ed.	94-95
PN3	M	53	33	R	GOVT	MATRIC	MA, B.Ed	92-93
KS4	F	50	29	R	KVS	SECOND ARY	MA, BEe	92-93
NI5	F	47	27	R	GOVT	B.SC	MA, BEe	92-93
AA6	M	45	24	U	GOVT	BA, BEe	MA, MED	93-94
AU7	F	56	25	U	KVS	B.SC, BEe	MA.	94-95
JA8	F	34	11	U	KVS	BA, BEe	.....	94-95
TK9	F	55		U	APJ	B.A	B.Ee	94-95

The awarded teachers joined the profession at an early age They kept on improving their educational and professional qualification through continuing system of education open university, distance education mode etc. These teachers as reported by them valued certificates and degrees more than attending in-service courses.

Procedure of Data Collection

- Data were collected by the research team through questionnaires, interviews, observations, field notes. Informal interaction with pupils/ colleagues/ principals/ management .
- Teachers were requested to write their auto-biographies in a standard format, which was given to them in the form of a questionnaire. However the same questions were also made the basis of informal / open-ended interview by the research team. During the process of interview they were asked to highlight their creative work not known to the team and if possible, supply a set of their work to the team.
- Data of teachers psycho-social traits were collected through standardised tests.
- HRD climate of the institutions was also obtained as it is highly related with the TQM of schools.
- The data regarding the impact of the innovative work was procured through their publications, interview and observation of their classroom behaviour.

Analysis of Data

Psychometric Profile

All the obtained scores on the tests of intelligence were summarised in one total score or index. The scores on creative attitude were summated as per the manual and the same was done for self concept, socio-economic status scale and job-satisfaction scale. The results of the same are presented in the table along with the awards /recognition won by them as well as the source of inspiration for their award winning paper.

Table- 2 Psychometric Profile with the Level of Job Satisfaction, Recognition won & Source of Inspiration.

Teacher	GMA	Creative Attitude	Self Concept	SES	Job Satisfaction	Recognition Won	Source of Inspiration
NK1	AA	AA	AA	U MIDDLE	YES	NCERT-1, STATE-1 DISTRICT-1	Educationists, books, self thinking
AK2	AA	AA	AA	U MIDDLE	YES	NCERT-3 DISTRICT-2	Educationists, parents, experiments
PN3	A	AA	AA	MIDDLE	YES	NCERT-3	Educationists painting, pupil needs
KS4	A	AA	AA	MIDDLE	YES	NCERT STATE DISTRICT BLOCK	Father, slum pupils' needs, creative mind
NI5	A	A	AA	U	YES	NCERT	Colleagues, books,

				MIDDLE		PRESIDENT STATE	artistic mind
AA6	A	AA	AA	MIDDLE	YES	NCERT STATE PRESIDENT DISTRIC	Self, books, slow-pupils
AU7	A	AA	AA	LMIDDLE	YES	NCERT	Principal, colleagues, spastic-pupil
JA8	A	AA	AA	U MIDDLE	YES	NCERT	Books, colleagues, educationists
TK9	A	AA	AA	U MIDDLE	YES	NCERT	Principal, educationists, husband

The table-2 reveals that most of the primary school teachers are average in general mental ability but above average in creative attitude and having positive above average self-concept. These teachers hail from low middle to high middle class families. They all experience satisfaction in their job. Having creative bent of mind, they keep on doing innovative work and have been awarded not only by the NCERT but also they are recipients of president award, state and district level as well as local awards. Generally, they are self motivated personalities, though their self motivated activities have been facilitated by important educationists family members, creative inspirational books, friends / colleagues etc.

In order to make innovative teachers case profiles comprehensive, their interests and personality traits were studied. Approaches to the study of the significance of personality and interest for success in innovative work generally follows one of two patterns: clinical analysis, and psychometric appraisal. (Super and Crites; 1968). In the present context the study of personality and interests have been impressionistic based on observation, interaction and interview techniques. It predicts their interference or non interference with innovative endeavour. Similarly the impression of their significant activities and the nature of their creative work along with their self-assessment are creative work was gathered.

It is found that the awarded teachers cheerful, sober, carefree, optimistic, energetic, determined, adaptive, sensitive, patient, jovial, active, enthusiastic, extroverted, self-made, hard-working, optimistic, contented, satisfied in their job, progressive in their outlook, actively involved in the community upliftment program as well as in the various local literacy campaigns. Generally, these teachers were fond of reading, creative writing of poems/stories tit-bits, /puzzle /essays /articles in various magazines, newspaper or educational journals, preparing instructional materials / teaching aids /educational toys /games organising various cultural programmes / encouraging pupil participation in state /district /block level debates - declamation, quiz-competitions writing competitions, etc.

They are also active social workers and cultural reformers, environmental conservators, radio-artist, good speakers, key resource persons in various state level educational programs. Almost all these awarded teachers have contributed in the literacy drive of U E E,E F A, and N L M.

Genesis, Planning and Executive Process of the Innovative Practice

The most important objective of this piece of research is to study the genesis and process of award winning innovative practice carried out by them. Through the study of their biographies implications for school effectiveness are inferred.

This section attempts to provide insight into the awarded teachers working system for innovative projects, which were submitted for the NCERT competition. It also answers some of the

baffling questions such as their source of inspiration, how the idea of innovative work cropped in their minds, how the project was planned and executed, what problems obstructed their path and how these problems were overcome.

All the sampled teachers have above average creative attitude and self-concept. They compose poems, and write articles, stories, essays, plays as well as develop creative instructional material for their students. They even inspire and guide their pupils in this direction. They are also instrumental in developing their total personality through imbibing of basic communicative skills, study skills and social skills through the teaching learning process of various school subjects as well as by co-curricular activities. The impact of this conscious and planned act demonstrated observable change in pupils overt behaviour. During this process of personality development awarded teacher happened to read NCERT advertisement in one of the newsletter thereby wrote a paper on her experiment and became a winner of a award. To cite another case a rural primary school teacher, has an aptitude for painting. During the teaching learning process, he experienced that some difficult concepts of textbooks could be transacted easily in a simple manner through visual graphical instructional material. Accordingly, he tried it out and got positive reinforcement. In one of the meetings of headmasters he happened to read the advertisement of NCERT. He put his ideas in the form of a paper, for which he was awarded. After that he was invited to participate in the National toy workshop. Inspired by this every year he was participating in these competitions and winning prizes and awards. Another teacher reported that an educationist of NCERT had visited her school. While discussing some educational themes, the educational expert discussed about NCERT program on innovations in school education and motivated her to submit a paper to NCERT about the innovative work which she was already doing in her school. Similarly a teacher working in the suburbs of Rajasthan was inspired by the field officer for the same. Thus involving themselves in creative and innovative work is a habit with them. Submitting a paper for NCERT competition was just a matter of chance for them in the sense that they received the information about the competition through some educationist, friend or advertisement and submitted a paper for the competition.

Planning and Execution

The innovative practices were planned keeping in view the needs of the students, requirements of the subject area and the sub-unit selected. All the major steps needed for carrying out these practices were considered and a sort of a blue print was prepared. For instance a science teacher prepared a questionnaire to test her pupils' understanding of the concepts, retention capacity to identify the slow learners, prepared instructional modules and other relevant material on sub-unit to make teaching effective. An English teacher planned to develop reading, writing, listening and speaking skills of students through the use of proverbs /stories /incidents. A mathematics teacher prepared worksheets in mental mathematics, games quiz, fun with numbers and home assignments. She had also done similar exercises for teaching language games, environmental studies, teaching English rhymes etc. Another awarded teacher being head of the unit was found to be very democratic in her approach and shared her ideas with her colleagues at every step. In the staff meetings, she motivated her colleagues to try out the innovative ideas, discussed the project plans and sought their co-operation in developing the skills and personality of the students through quiz, competitions, cultural programs and language development techniques. Zero-periods were utilised for discussion, preparation of developmental plans, monitoring progress and obtaining feedback. Head of another school obtained co-operation of her staff in selecting the theme of the project and planning different activities, collecting relevant material, discussing, analysing and summarising various events and their presentation. The science teacher gave pictures in the instructional material taken out from old magazines, and some drawn by herself and books to the slow learners to work upon either in the SUPW period or after school hours for four weeks. They were to learn the sub-units at their own pace under the supervision and guidance of the teacher. Post test results were

encouraging and some of them came up at par with the rest of the class. After reading this material, they were asked to answer some questions based on the text. For teaching proverbs, the teacher and the students narrated stories connected with the proverbs and organised group competitions.

Motivational Factors

Most of these innovative teachers derive motivation from their family members - parents, husband and other significant persons in their life. In a few cases it is found that students - their special needs have become a motivational force for them (mentally retarded and spastic children as reported by a teacher from Karnataka). Eminent educationists, school management and heads of the institutes too have been the source of inspiration for submitting the paper of their innovative school practice for NCERT award. As referred to in the Table -2 books, reflective thinking, colleagues, friends, deplorable environment, rural/ slum conditions etc. have been the source of inspiration. Sometimes their involvement in the educational activities at the local, district, block, state or at the national level kindled a new zeal and enthusiasm to try out new ideas in their classrooms or schools. In this context, motivation is the result of interaction of the individual and the situation. At the same time it is the willingness to exert high level of effort towards achieving educational goals and organisational goals conditioned by the individual efforts and inner urge of self realisation. It is a well established fact that we are all concerned with the improvement in the educational standards, which to a large extent depend on the motivation of teachers.

Attitude of the Concerned Individuals

The family members, management, principals and colleagues of awarded teachers played a significant positive role in the realisation of the innovative practices and experiments. These teachers had been provided support from all concerned as and when required to make teaching learning process interactive, joyful and effective. Almost all had reported the role of freedom and autonomy in carrying out their ideas.

However, a few had reported otherwise too. Some of their colleagues were jealous of these innovative teachers. One of the colleague of the awarded teacher got herself transferred to some other school. Management in another case was reported to be not so enthusiastic about the innovative work. As such substantial support for the execution did not come forth through verbal appreciation. Students, their parents and family members have been very supportive and co-operative. Wherever, students participation was required, they worked very enthusiastically and completed part of work.

Barriers to Innovative Work

Most of the innovative teachers reported that they did not have any major problem in doing the work in their institutions. This amply reinforces the phrase 'where there is a will, there is a way'. Probably, these teachers plan the work in such a way that they don't have to face serious problems in their work and when even there are problems they know how to meet the challenges. However, a few of the teachers felt that they had shortage of staff or they did not want to put an excessive burden on financial resources. One of the teachers felt that innovative work was so much time consuming that the family got neglected and she had to spend a lot of her time and money on the project. Sometimes the element of jealousy crops in the minds of colleagues and neighbouring schools who find it difficult to digest the recognition won by teacher.

Some of the NCERT awarded primary school teachers were working as heads of their institutions. The success, development, sustainability and image of the school in the immediate

community depended on their efforts, interests enthusiasm and motivation in connecting schooling with life in the local community.

These innovative teachers, were found to be interested in the professional development of their colleagues, a leadership trait which is the need of the hour at present. They were found to have sufficient skill, capability and competence to organise staff meetings for sharing academic ideas, project plans and execution of the proposed ideas. The faculty also rendered full support for execution of project.

Through biographical research an effort has been made to capture the relationship between local community and the individual teacher to show how societal movements and individual choices and actions affect the development of the educational institutions. One example is that of a rural school teacher of Harayana, where the condition of school was very deplorable at the time of his joining the school as a headmaster. As narrated by him the school comprised two dilapidated rooms no boundary wall, unlevelled playground having plants and bushes and no water or toilet facilities. Enrolment of the pupils was about 50 and the average attendance was not more than 30. Punctuality, time-table and morning assembly were conspicuous by their absence in the school. Generally, pupils remained absent after interval. All these factors compelled him to make the school as his working place. He beautified the school made efforts to improve enrolment drive, sought parents co-operation, emphasised personal hygiene and school cleanliness. Morale of the students was boosted by giving them recognition through small token prizes for maximum attendance, personal cleanliness securing positions in the competitions etc. Regular classes during summer vacation for students of class V were arranged. As a result many of them got admission in Navodaya schools. All these measures facilitated 100% enrolment of children of the age group of 6-11 years in the school a fact that was recognised by the State Education Department. The school was awarded a cash prize of Rs. 1000/-. The village panchayat also rendered financial support in providing the required facilities. Due to the good image of the school the state govt. arranged visits of the foreign delegates from China and Vietnam to this rural school. Being single and some times two teacher school, multi grade teaching was practised. This teacher encouraged the concept of management and class control in children. The immediate controlling officer endorsed this fact in this teacher's annual confidential report. Besides, due to his efforts towards literacy drive the village was declared as Total Literate Village. Participation in various district and state level competitions and wining always a prize is now a routine phenomenon for this school.

The heads of two NDMC schools have adopted participatory and decentralised approach not only in planning the innovative projects but also in its implementation. One of them formed class libraries to facilitate the work of teachers and students. Competitions and exhibitions were being arranged. All teachers were assigned different duties. Besides own school library, students and teachers were facilitated to consult other libraries in the vicinity for the completion of the school project 'Freedom Movements'. The narrator teachers have given meaning and significance to different events, the explanation that changes the course of life and the priorities that are expressed in their discussions/interview and responses to various questionnaires.

Slum community was facing social and cultural problems which had great and decisive influence on the educational system and social development. Beside the lack of equipment, a lady teacher in a slum area of Jaipur was facing problems concerning the whole legitimacy of schooling. This resulted in the dramatic increase in the dropout rate of children. Some other reasons for high dropout rate were social problems in families forcing children to leave school to support the family by cleaning utensils, washing clothes or rubbing floor. It resulted into lack of interest or motivation among youngsters to join school as it did not seem to play any role in their life and on the top of this parents demanded their children to stay at home for looking after their younger siblings and livestock. The knowledge which the school was supposed to hand over to these people seemed to have no meaning and significance. The lady teacher from sub-urban area of Jaipur, Rajasthan supported educational development in a way which on the one hand grasped and reflected the specification of the culture and on the other responded to the

educational needs. She tried out new methods to make teaching learning process joyful, meaningful, culturally relevant and creative process for these slum children, for whom it had no meaning otherwise. The concept of earn while you learn was practised by her The skills of earn while you learn was practised by her. She taught the skills of making toys from low-cost waste material not only to her pupils but also to their parents. This skill acquisition substantially increased their income. It also motivated parents to send their small kids to the school. Thus, this teacher through social work and self developed cultural /educational theme based poems /stories /tit-bits /puzzles tried to make education relevant to their culture and achieved the national goal of UEE in her own way in her local community besides inculcating moral and ethical values among them. In this way, the slum children were helped to raise their family income besides becoming literate. Thus, the opinion of parent regarding schools and schooling changed and they regarded school education as purposeful activity related to life and its needs. These efforts proved very useful in creating a culturally and socially adequate school development strategy and teacher empowerment in the local community. Hence, her efforts were towards *making school relevant to the needs of immediate culture*.

Another significant aspect is their interest in making teaching as per the needs of children so that learning for them becomes a joyful activity. The educative potential arise from their personal and professional involvement in schooling as a process which involves innovative ways of teaching. The two teachers from Rajasthan studied the needs of children. One of these two teachers successfully taught the use of 'matras' in writing and reading Hindi by improvising a folding board with small holes in it and preparing thermocole letters and 'matras'. These were to be tucked on the folding board by the students A suburb teacher in Jaipur taught besides 3 R's making of toys from waste material to her pupils which they sold in the market and earned money. Another school teacher taught alphabets by drawing lines and pictures and also reading of newspaper to her little pupils The different ways these teachers try to fill in the cultural vacuum that occurs because of the local social setting form which these children come (in case of Rajasthan teachers) and to provide rich instructional material to suit the background of pre schoolers of a posh colony (in the case of a Delhi teacher) form a central precondition for school development, attainment of students and anchoring of reforms in the teaching learning process.

All this occurs due to the freedom teachers enjoy in planning and implementing different educational reforms. Thus, a relationship is established between freedom enjoyed by the teachers and educational reform in the school. Thus cultural analysis and educative aspects reveal formalised requirements of schooling and education, and demands by the local community for relevance. Further these reflect how the meanings and significance embedded in everyday life are generalised and made universal as values and interpretation of life.

The innovative primary school teachers were found to be real classroom managers at the grassroots level. They had democratic and creative attitude, and understanding of group dynamics. They were instrumental in achieving the institutional goals, setting norms, providing solutions to barriers helping in releasing group tensions and rewarding effective behaviour, though in simple verbal tones. Their life histories reveal that what they do in their educational setting is changeable with considerable open possibilities. These teachers were able to independently research, interpret and find meaning in the organisation of their every day life, in spite of the possible structural constraint. They construct meaning in and around school related activities which had crucial influence on school education.

The teachers in their biographies had emphasised that they experienced the freedom of teaching in their schools as a challenge to realise their own vision for the educational work. A chance and a possibility they have not had before neither professionally nor personally. These people constructed their own lives and were not conditioned by the societal constitution. It is the field of educative aspects that are in focus when analysing the teachers case studies. The educative potentials arose from teachers personal and professional involvement in schooling as a process which included more than teaching the subjects in a traditional way. The way teachers themselves fill in the cultural vacuum that occurs with the societal

changes is a central precondition for school development and for strengthening the anchoring of the reform. This is due to the fact that teachers to a large extent will have the ownership over defining and implementing different reforms.

A close connection can be claimed to exist between teachers biographicity and the educational dimension of the school. Biographicity covers ability and possibility to fill in the cultural vacuum. It is such a vacuum where our innovative teachers transferred the school into community based school that offered an educative possibility as schooling is more than teaching the subjects. For example, teachers of rural area of Haryana, Rajasthan, Urban area of Delhi can easily be put into this category. The educative dimension of these teachers consists of cultural manifestation of the individual teachers life. A case of a lady teacher working in a private (public school in a posh area of Delhi) is a representative of this. It is this relationship between teachers life, schooling and the educative aspect which cultural analysis and biography research assist in highlighting. The biographical launching pad is a bottom up perspective in school development in several ways:

1. It reveals how the life unfolds in an educational context in the encounter both with formalised requirements to schooling and education and the demand by the local communities of relevance.
2. It reflects and shows how the meaning and significance embedded in every day life are generalised and made universal as values and interpretations of life.
3. On this basis some of the innovative teachers transfer their schools into community based schools where they are able to achieve more enrolment retention, and achievement/attainment as the goals of U E E as an educational dimension. The educational dimension which they had developed can be seen as authentic expressions of the basic values and cultural orientations in the rural and urban society. Good support system conducive HRD climate and boost from authorities can help to a great extent to bring in many innovations in these classroom managers at the grassroots level.

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Community Participation and UEE: A Fresh Look

Veena Thakare[1]

Introduction

"Universal education must preside universal enfranchisement" go as the saying. An educated and enlightened citizenry is an essential condition for success of democracy. In most of the developing countries, education is compulsory upto the secondary stage. Education of all citizens was looked upon for the success of democracy. Education has become the important means for improving the lot of the people

Universalization of Elementary Education After Independence

India after independence opted for a democratic, socialistic republic of administration. The Indian Constitution emphatically pronounced through its directive principle, the provision of free and compulsory education for all children up to the age of fourteen.

"The State shall endeavour to provide free and compulsory education to all the children up to the age of fourteen within ten years of adopting of the constitution." But we are unable to fulfil this aim because, an individual instances primary education may not show very decided results but taken in the mass it means for the bulk of the community at higher level of intelligence, a greater aptitude for skilled labour and higher capacity for discriminating between right and wrong. It raises in face the whole line of the life for the large numbers.

Kothari Commission (1964-66) recommended the structure of primary education, admission, enrollment, part time education, free-education, free text books, writing materials, scholarship, Ashram Schools, universal provisions for schools, improvement of quality, education for girls, and language problems. All these recommendations target Universalization of elementary Education. The recommendeations by the Commission were, by and large ignored.

National Policy on Education (1986)

National Policy on Education expressed strong political will and deep commitment to the Unversalization of Elementary Education.POA (1992) gives emphasis on -

1. Large systematic programme of NFE with quality comparable with formal education,
2. Linkages between ECCE, primary education, adult literacy and post lieracy and continuing education,
3. Professional up grading of teachers, and
4. Forging an alliance of teacher

NCERT Programme

For qualitative and quantitative development of elementary education NCERT completed the projects on 'Primary Education Curriculum Renewal (PECR)' 'Nutrition, Health Education and

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Environmental Sanitation (NHEES) and on 'Area Intensive Education Project (AIEP), and during the year 1988-89 the project was implemented in six states -- Maharashtra, Mizoram, Orissa, Rajasthan, Tamilnadu, Uttar Pradesh and Darda and Nagar Haveli. The council provided technical support to the state participating in the project for development of learning materials, training of facilitators of learning centres, development of question bank etc.

Access:

1. Universal enrolment of all children, including girls and persons belonging to SC/ST.
2. Provision of primary schools for all children within one Kilometer of walking distance and of facility of non-formal education for school drop-outs, working children and girls who cannot attend schools.
3. Improvement of ratio of primary school to upper primary school from the existing 1:4 to 1:2 thus being a pre-condition for large opportunity for widening girls participation at upper primary stage.

Present Position of UEE

The West European and North American countries which are highly industrialised are passing through three broad phases of educational development. The first stage began in the second half of the nineteenth century, universal primary education was established during the period. The second stage came to an end at the end of world war-II. During this stage, America was completing its target of Universal Secondary Education. Equality of educational opportunities is firmly rooted in these countries.

The following table indicate each countries progress towards the goal on Universal Primary Education but does not reflect on quality of schooling the children receives.

1	China	99%	6	India	66%
2	Mexico	98%	7	Bangladesh	63%
3	Indonesia	97%	8	Nigeria	59%
4	Egypt	91%	9	Pakistan	29%
5	Brazil	88%			

(Sources 'Education for All" status and Trends 1993 UNESCO)

India has indeed a monolithic system of education. There are now

Primary Schools	5.9 Lack
Elementary School	1.7 Lack
Senior and Senior Secondary School	95 Thousand

Gross Enrolment Ratio in Primary Education

	1950-51	1993-94
Total	42.6	95.0
Boys	60.8	106.2
Girls	24.9	85.0

(Source: MHRD and NCERT 1995)

Number of children (6-11 Age group) never enrolled in primary schools (in millions)

School	Boys	Girls	Total
1 Rural	16.4	22.7	39.1
2 Urban	02.0	02.5	04.5
Total	18.4	25.2	43.5

(Source: SSO 42nd round data as given in Tilak (1996 Table 6 and 7))

India faces the paradox of its commitment to promoting Universal Primary Education and the large gender gap in education seen from the human right perspective. There is need to go beyond reaffirmation of intent to focused action and implementation and convert policy into reality. It is also imperative to move from the means to end perspective.

Enrollment of Girls in Elementary Stage (in millions)

Stage	1950-51		1993-95	
	Total	Girls	Total	Girls
Primary	19.2	05.4	108.00	46.4
Upper Primary	03.1	00.5	039.00	15.7

(Source: MHRD 1995-p.16)

It is in this connection a few words may be said that during the last fifty years the ideal of the universal free and compulsory education for all children under fourteen year of age has remained an ideal only. Unless some rovolutionary steps are adapted the ideal can never be achieved.

Community Involvement

While the Union and State Governments have there full share of responsibilities, in the final analysis, it is people's involvement in educational reconstruction which will make the crucial difference in meeting the challenge of achieving UEE in India.

The support of the people can come only when there is a direct involvement and participation of the people in educational affair. Like in USA, USSR and UK, the Indian community can help to universalization of elementary education by opening primary schools and support their schools for building, equipment, library, midday meal and so on to a considerable degree because the local population has a direct hand in shaping the principles and policies. Community can help to universalization of elementary education by opening minority educational institutions.

A Community school is one whose programme is designed for useful and effective learning of the children and that helps to improve the quality of living in the community.

Participation of Community - A Plan of Action:

1. Elementary school can be administered by Panchayat Raj Institution so that it may bring local interest and local knowledge to bear on the problem and also bring additional resources.
2. For the expansion of education and for the qualitative development of education at the elementary education, there is a great scope for harnessing public co-operation and community effort, much can be left in the hands of the local people, the Parents Teacher Association, the village panchayat, the Zilla Parishad, etc. Tamilnadu has successfully utilised the community efforts, other states can emulate The local authority can both finance and administer, the school education at the elementary level.
3. Every state can harness community effort through an organised school improvement projects in four phases -

   i. Detailed preparation of need of schools in a district,
   ii. Informal meeting with public,
   iii. Holding conference, and
   iv. Securing aid from community

1. The state has set up a sort of local committee for every group of schools. The local committee consists of people living in that erea. The committee arranges midday meal, provide equipment, books, maintanence of building and finances, the expenditure for school uniforms. In this way the state government reposes trust upon the local population.
2. Parent Teacher Association

   i. Such associations have been found to be successful in foreign countries. But in India, these remain largely on paper. The PTA should be made a lively organization, and should function as a development executive of the school bringing in all round development of the school. In order to create enthusiasm among the teachers for forming PTA schools should adopt a programme for orienting the teacher in the objectives and methods of PTA
   ii. Government should entrust financial responsibilities to these associations.

6. There should be adequate community participation in school organization for adapting suitable methods, media and material, improving teacher training and supervision, bringing about adequate awareness and interest, Developing alternative challenges.

Partnership between Government and Community:

Taking the Indian Union as a whole, it may be said that of a total of 28 states, 12 states associate local bodies with the administration of primary education in some form or the other.

Several reasons are advanced in favour of associating local bodies with the administration of primary education. It brings the schools closer to the communities they serve, it harnesses local resources to the cause of mass education and further it materially; it brings in additional finances to support

primary education. It create a multiple sources of finance which works much better in practice than a single source.

We strongly feel that interest of mass education should be the only criteria to decide whether authority over primary education should be delegated to the local bodies.

Suggestions:

To make community participation realistic and reasonable, the following suggestions need immediate implementation.

1. The future of the country/village lies with elementary education and hence success of UEE depends on monitoring and evaluation of the progress by the local leaders and alert citizens.
2. The corruption in administration and financial management in UEE be checked forthright through vigilance and making the system efficient.
3. Women, Dalit and minorities be made sensitive to the need for UEE and so that give appropriate direction to the satisfactory attainment of the target.
4. The sensitive and sensible citizens of that area be prompted to think on the local needs and be involved in drawning out the blue print of UEE for immediate implementation and successful realization of the goals of UEE .
5. The active and alert officers and subordinates be encouraged and rewarded for good work so that the schemes turn into reality.
6. Private management should not be discouraged but encouraged to open the schools.
7. In Indian society different communities those are culturally integrated have their own code of conduct, social, financial and educational variation. Education imparted by different minority community will definitely help in uplifting them. So if all minority communities run their educational institutions, the goal of UEE will be served.
8. There should be a healthy co-ordination between State Government and local bodies

Education for Underserved Groups : Some Issues

Mary S. Thormann[1]

Introduction

To develop the paper for this conference, I decided to meet with selected international donors to find what they were doing in the area of education and the issues that they identified as crucial ones for India as it enters the 21st century. I was particularly interested in learning about donor activities with regard to the education of adolescent girls, and also obtaining their comments on my premise that the groups often overlooked in Education for All (EFA) initiatives are early childhood, although this is rapidly changing, and children with disabilities. I thought meeting with international donors as well as Indian educators and administrators would be useful because it would provide a somewhat different perspective. The value of the donor perspective is that it draws on experience not only of the donor country, but also of many countries around the world in which they fund education programs.

In this regard, I recall how struck I was by the statement of a Chinese educator I was working with in Hebei Province when discussing the reform of their educational system. He said: "we will borrow some stones from other buildings to build our buildings." That statement reflects my feeling that all of us donor communities, governments, NGOs, private sector, researchers need to borrow stones from one another to build a foundation that will support the quest of generations to come for a quality life and the opportunity to contribute to society.

In this brief presentation, I will address three areas: school readiness, children with disabilities, and girls and adolescents.

Preparing Children for Success in School: School Readiness Programs
High Dropout and Grade Repetition Rates

Universal primary education cannot be achieved if children do not remain in school and learn. High dropout and grade repetition rates indicate low efficiency of an educational system and represent a waste of human and financial resources. The "holding power" of primary schools must be strengthened.

High dropout rates among primary students is a common phenomenon in South Asian countries, with few exceptions. It is estimated that of those who enter grade 1, between 40 to 60 percent dropout before completing the final grade of the primary cycle. Moreover, dropout and grade repetition rates tend to be highest during the first two to three years of primary schooling (ADB, 1996).

The concept of school readiness is important to any discussion of reducing dropouts and grade repetition. Early childhood education can prepare children for primary school and provide the necessary transition between home and formal schooling. Unpreparedness for the demands of formal education contributes to an inability to profit from instruction and remaining in school (Lockheed & Verspoor, 1991).

School Readiness

In some countries in Central Asia, such as Kazakstan, where I worked on an ADB-funded UNESCO sector assessment, the provision of preschool education for children up to six years of age, and the quality of general education, rivaled that of industrialized countries prior to the dissolution of the USSR in December 1991. After that, thousands of preschools were closed and over a relatively short period of time, two to three years, the proportion of children entering grade 1 without kindergarten experience declined by 47 percent.

According to primary teachers and specialists who were interviewed in a separate study for the World Bank, the negative consequences for students entering grade 1 without kindergarten experience

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included (a) a relative lack of knowledge of basic skills, such as the alphabet, telling time, counting, (b) reduced sociability skills, such as mixing with other children and non-family adults, and (c) a wider variation in language development. The classroom teachers felt that two years of preschool were essential for success in grade 1.

Research on Preschools in the United States

Much of the research on the effects of preschools draws on experiences in the United States, especially on research of Head Start, federally mandated programs that began in 1965 to help equalize educational opportunities and overcome some of the effects of living in poverty for disadvantaged, economically deprived children. Other studies, for example, the High/Scope Perry Preschool Project, a study that spans almost three decades, documented the effects of high-quality, active learning preschool programs on both short and long-term benefits to children living in poverty and at high risk of failing in school. Significant and persistent outcomes have been documented for the program group at age 27, as compared to the no-program group.

Some of the "significant benefits" for the program group included a significantly higher level of schooling completed and a significantly lower percentage receiving social services, as compared to the no-program group. Over the years, the program group had significantly higher scores than the no-program group in literacy, school achievement, and intellectual performance. Significantly more females had completed high school or higher and spent less time in special education programs, at age 27, as compared to no-program females (Schweinhart, et al.,1993). The results of this study, as well as research on Head Start programs in the United States, may have specific relevance to South Asian countries.

Selected Research on School Readiness Programs in India

Lack of school readiness has been identified as a major contributing factor to high dropout rates in India. Surveys conducted by the National Council for Educational Research and Training (NCERT) indicate the importance of early childhood programs to retention and prevention of dropping out of school. The NCERT study followed preschool and elementary education cohorts of approximately 30,000 students for four years in eight states. It was found that early childhood education of even four hours per day increased retention in the primary grades by 15 to 20 percent. Moreover, the impact of the early childhood education on retention in primary grades appeared to be greater for girls as compared to boys.

Access is very limited, however. Only 15 percent of the age group 3 to 6 in India have early childhood education. Other studies have been conducted in India which substantiate these findings and are available from the NCERT.

One Approach to Child-Centered/Developmentally Appropriate Programs

In over 20 countries in Central and Eastern Europe and the former Soviet Union, thousands of early childhood programs, based on Head Start experience and building on the cultural traditions of the respective countries, have been established. This has been accomplished through cooperation with Children's Resources International based in Washington, D.C., with funding from the Soros Foundation's Open Society Institute.

The preschool program, known as the Step by Step program, utilizes a child-centered approach and emphasizes individualized teaching, family participation, and classroom environments that assist children in making choices through activity centers, such as literacy/bookmaking, manipulatives/math, and dramatic play. In child-centered classrooms teachers foster the children's growth and development best by building on the interests, needs, and strengths of children. The Step by Step program specifically does not have the downward extension of the primary school curriculum as an objective.

An issue for India as the 21st century approaches is what actions it can take to expand and strengthen the quality of early childhood programs, not only to serve all children, but to adequately serve each child.

Educating the Disabled and Special Needs Students

The *World Declaration on Education for All* (EFA) states that the learning needs of the disabled be given special attention and that steps be taken toward providing equal access to education as an integral part of the education system for all categories of disability (Jomtien, 1990). One of the most recent declarations promoting the rights of individuals with disabilities of all ages and abilities emerged from an international congress held in Bethesda, Maryland, in June 1996 with participants from 19 countries, one of at least four international actions since the early 1980s to assure the rights of individuals with disabilities. The agenda for action that emerged from that congress stated that nations and communities can work together and learn from each other to build local, integrated, responsive *systems* of services for children with disabilities.

Worldwide there are 500 million individuals with disabilities, 400 million of whom are in the developing world (UNDP, 1996). It is estimated that there are about 140 million children with disabilities, but the size of the population of primary age children with special educational needs, a much larger group, is difficult to determine. Estimates range from a "conservative estimate" of ten percent of all students who have significant difficulties in learning at school to 50 percent in the least developed countries of Asia, if one takes into account school failure figures.

It is against this background that we can talk about the *rights* of millions of individuals with disabilities to a quality education. Children with disabilities should enjoy the same privileges, rights and opportunities as everyone else.

However, a continuing dilemma in the field of special education is labeling or categorizing children by disability Labeling or categorizing children, while it may be administratively necessary so that resources can be channeled, tends to imply low expectations and can lead to lower achievement, as has been shown in a number of studies. Many countries, such as New Zealand, Norway, the United Kingdom and Spain no longer define categories of handicap in their educational legislation.

We need to go beyond solely labeling or categorizing children according to their disability, rather we also need to take account of each child's *abilities*. To say that a person is "physically disabled" or "physically handicapped" is only one element of educational planning for that individual While classifying children on the basis of etiology of an impairment or on expressed deficits assists in determining eligibility for services, the fact is that children sharing conditions with a common etiology may vary considerably in motor abilities, cognitive development and language development (Bailey, et al., 1993).

Expanding on the idea of children's "abilities," rather than disabilities, led one well-known researcher at the University of North Carolina in the United States to develop an instrument, the ABILITIES index, to assess disabled children and adults along a continuum of nine domains, such as intellectual functioning and behavior, and social skills with the result that individual strengths and weaknesses in the various domains are identified (Simeonsson, 1991). The instrument has proved to be of considerable usefulness in identifying and serving children with disabilities in a number of countries, including China.

In addition to the severely or moderately disabled, i.e., those with obvious handicaps, there is a much larger group, often overlooked, who for various reasons experience educational difficulties and often fail to realize their potential, many of whom may become dropouts or grade repeaters. This has been referred to as the "hidden population with special learning needs." Identification of those students is critical in order to address their particular learning needs.

While it is axiomatic that good teaching is the key to educational quality in the classroom, teachers of the disabled, whether in integrated classrooms or separate, must be specially trained to facilitate the learning of children with special needs.

Finally, achieving integration, or inclusion as it is sometimes referred to, is a highly desirable objective. Years of research in other countries have contributed to our knowledge of how to successfully include students with disabilities and special learning needs in general education classes. Successful integration involves attitudes and beliefs, services and physical accommodations, school support, especially of principal, collaboration and team work, and teacher's knowledge and skills to select and adapt curricula and instructional methods.

Full integration is highly complex to implement. It requires changes in laws, policies, organizational structures, definitions, curriculum, pedagogy, teacher training, attitudes and financial arrangements, cooperation between educators and parents, members of voluntary organizations, and with professionals from health and social services (OECD, 1995). Decision makers and policy planners can learn much from experiences in other countries struggling with similar issues in different contexts.

While the regular classroom may not be the best learning environment for every child with a disability, it is highly desirable for all who can benefit. It provides contact with age peers and prepares students for living and working in the community and world beyond the classroom.

Educating Girls and Young Adolescents

There is general consensus that the education of young girls and women is the way to improve the health of families, improve their economic status, and improve the likelihood that children of that family also will be educated. However, in all countries, the UNDP's gender-related indices reflect lower achievements in human development for women than for men.

Gross enrollment ratios are lower for girls than for boys in most countries in South Asia. Two reasons often cited for girls' lower enrollment and retention in school are that poor parents do not send their girls to school because of the low value placed on education and that work keeps them from school.

These reasons are dismissed as "myths" by a group of Indian researchers, based at the Delhi School of Economics and the Indian Social Institute, who conducted a recent survey of 1,221 parents in 188 randomly selected villages in Bihar, Madhya Pradesh, Uttar Pradesh and Rajasthan. The Public Report on Basic Education (PROBE) survey found that most respondents were very keen to enable their children to acquire an education.

The report states that a "resounding 80.2 percent of parents felt primary education should be made compulsory for all children. While 98 percent stressed it was important for sons to go to school, as many as 89 per cent felt similarly in case of daughters." The researchers state that parental motivation for female education is lacking in some cases but the general pattern is one of "loud clamour for better educational facilities." The researchers also found from their survey that, contrary to common perceptions, while girls have less free time compared to boys (7.5 hours versus 8.5 hours in a 12-hour day), they had enough spare time to attend school: "...when children work rather than go to school, it does not necessarily mean that work requirements are to blame for their failure to attend school. In many cases, it is the other way round: children work because they are unable to go to school" (Bhatty, et al., 1997).

Reducing existing gender disparities in education access is one of the main objectives of the Government of India's program in education reform in the area of primary education, the District Primary Education Programme's (DPEP), with support from the World Bank and other donors. The DPEP was launched in 1994 in seven states and 43 districts most of which have low rates of female literacy. A recent study indicated a near absence of gender based inequities in enrollment, except in selected districts of Madhya Pradesh, and, again with the exception of Madhya Pradesh, repetition rates were generally lower among girls in DPEP, as compared to non-DPEP districts (NIEPA, September 1997).

Looking Ahead: Adolescent Girls

In most countries of the Asia region, the number of young people, between the ages of 10 and 24, will continue to grow significantly during the next 30 years. In India, for example, in 1996, there were over 284 million young people between the ages of 10 and 24; in 30 years it is expected that number will be over 340 million.

Young adolescent girls between 13 and 18 are often a forgotten group with respect to education. There is increasing interest in this age group, especially from the perspective of their sexuality and reproductive health. Many adolescent girls suffer from nutritional anemia in many parts of India and female mortality rates for girls of 15 to 24 years are high. Education can be critical in improving health and quality of life outcomes for young women.

We know from experience in other countries that the particular psycho-social needs of young adolescents are necessary to consider interventions, whether they be school based or not. Illustrative of a

type of process-oriented approach that addresses the needs of adolescents are the "teen core groups" that have been formed, as an offshoot of the Mahila Samakhya project, funded primarily by the Dutch, and also UNICEF and the World Bank, and which has been successful in mobilizing women for education, development, and social change. Much more work needs to be done to identify factors and develop interventions that will increase the numbers of adolescent girls who attend and achieve in school.

Major Issues

I would like to share with you a summary of some of the major issues that emerged during my discussions with donors and others. These issues are presented as possible points of discussion, and are illustrative only.

- mobilization of the community, including the teacher, to create demand for schooling;
- absenteeism of teacher in schools;
- lack of role models for girls in the schools, especially female teachers;
- inadequate resources and referral services for children with moderate/severe disabilities;
- identification of the disabled and students with special learning needs;
- need for holistic approach--taking into account all aspects of development--especially with adolescent girls;
- strategies to extend education to adolescent girls, especially taking into account proximity to home of upper primary and secondary schools;
- poor quality of many nonformal education programs, especially for girls;
- improved collaboration on education among government, quasi-government, NGOs, donors, private sector groups;
- coordination among government departments and ministries;
- replicability and "going to scale" of successful programs; and
- sustainability of programs.

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Literacy : The Women and Empowerment

Shamim Akhtar[1]

Literacy refers to state of being literate, especially of possessing the skill of reading and writing. However, literacy means literation, empowerment and development and how to make best use of them. About half of our population are illiterate. Most of these illiterate people constitute the oppressed section.

To reduce oppression, spreading of literacy among the illiterate is very much essential. Literacy empowers the illiterates (oppressed) and improves the power to express their oppression. In our country four groups may be grouped together as oppressed. These are: economically poor, the scheduled caste, scheduled tribes and the women.

According to Shri Bhaskar Chatterjee, (Director General, NLMA) "inequality between men and women is one of the most crucial and yet most persistent disparities in most societies". Differences in female and male literacy rates are one aspect of this broader phenomenon of gender-based inequality in India. While about 64.13 per cent of males in India were literate in 1991, the female literates being only 39.29 per cent. Coming to the North East scenario, in Assam the male literacy rate is 61.87 per cent and that of the female is only 43.03 per cent. Here Mizoram's literacy rate is highest of all (82.27%). The Female Literacy being 78.60 per cent.

Table 1 India : 1951-1991

Year	Literacy Rate (%)			Illiterates (In million)
	Persons	Males	Females	
1951	18.33	27.16	8.86	-
1961	28.31	40.40	15.34	167.32
1971	34.45	45.95	21.97	307.19
1981*	43.56	56.37	29.75	340.75
1991**	52.21	64.13	39.29	328.88

* 1981 report without Assam
** 1991 report without Jammu and Kashmir

Literacy Status of Assam and the North Eastern Region

Most of the Indian women have been subjected to social injustice and exploitation. She occupies a secondary place in the society. Her role is confined to the household duties only. Being a member of the oppressed group her education is not a matter of much importance to the dominant section of the society which is predominated by her male counterparts. Now people come out to make these oppressed people literate and various methods 2,3,4,5 have been undertaken. The launching of the National Literacy Mission in 1988 and the emergence of Ernakulam as the first fully literate district in India stands out. While the former enhanced the status of Adult Education programme, assured political and policy support, the latter sparkled off a series of literacy campaigns 7,8 which led to the eradication of illiteracy from a number of districts. It also succeeded in getting the co-operation of all sections of society to create a mass movement. In fact it is the turning point in the history of Adult education in India.

The example of Ernakulam raised hopes and aspirations of a small group of people of Assam, who started a pilot experiment in seven developmental blocks spreading over six districts of Assam. The Assam Science Society formed 'Gyan Vigyan Samiti (GVS), Assam', to work for the project and covers the learners age group of 9 to 45 years. A maximum period 16 months was fixed by the G.V.S.A. to upgrade the maximum level of learning. The three primers are gender-sensitive and functional. (The TLC blocks are Lahoal in Dibrugarh, Dhemaji in Dhemaji District, Mairabari and Laharighat in

[1] Guwahati College, Guwahati, Assam.

Morigaon district, Raha in Nagaon district, Sipajhar in Darrang district and Pragiyotishpur subdivision in Kamrup district).

Table 2 : Literacy Status of Assam and the North Eastern Region

States	Literacy Rates (7+)		
	Total	Males	Females
Mizoram	82.27	85.61	78 60
Nagaland	61.65	67.62	54 75
Manipur	59.89	71 63	47.60
Tripura	60.44	70.58	49 65
Assam	53 42	61.87	43.03
Meghalaya	49.10	53.12	44.85
Arunachal Pradesh	41.59	51.45	29 69

Source : Census of India 1991.

Table III : Literacy Rate of the State of Assam

Total Population (Assam)	2.2 crores
Total Male Illiterates	35,92,000
Total Female Illiterates	48,85,000

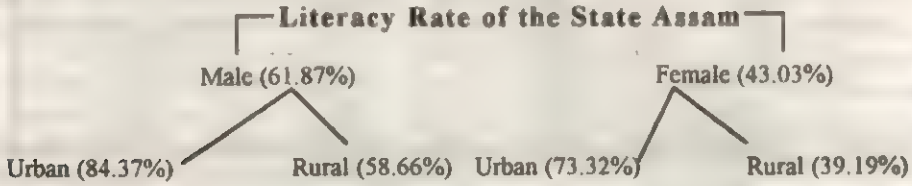

Table IV

Districts	Literacy Rates of the Districts	GVSA Activity Blocks
Dhemaji	53.84	Dhemaji
Dibrugarh	58.32	Lahoal
Darrang	42.00	Sipajhar
Nagaon	54.74	Raha
Marigaon	47.99	Lahorighat, Moirabari
Kamrup	65.04	Pragjyotishpur (Sub-Division)

The work of imparting education started in January 1993 to October 1993.

Target Group (9-45)	2,23,925
Learners Enrolled	1,82,295

Learners Studying as on March 1994

Learners completed Primer I	1,67,851
Learners completed Primer II	1,32,412
Learners completed Primer III	1,04,781

The Evaluation was done by Adult Continuing and Extension Education Department, Guwahati University on 23rd October 1994. In its report it says that, 64% of the sample learners reached the N.L.M.A. norms. The participation of women in this fifteen month long campaign was very encouraging. Women volunteers constituting 75 per cent of the total volunteers came forward to impart education to the illiterates. At all levels of this campaign the female activist extended their help to make this a grand success. According to the Evaluation Report "Women participation in the project is very much encouraging (72.4%) The Raha block showed the highest participation (84.06%) where the secretary is a teacher and a women Mairabari is a block mostly populated by Mohammedans, still having purdah, showed a remarkable number of females coming forward to take education. Female learners constitute 81.7 per cent in Dhemaji It was 74.7 per cent in Sıphajhar and 75 per cent in Lahorighat block. The learners above the age of 45 years the number of female were double of its male conterpants. The females constitute 72.4 per cent of the total samples tested by the evaluating authority.

Apart from beneficiaries women played a leading part in the literacy campaign. The present General Secretary of G.V.S.A. is a lady volunteer and teacher by profession, while the Editor of the "Gyan Vigyan Barta" the only newspaper* for the neoliterates in the state of Assam is also a female volunteer and a teacher too. Female teachers played a very active part in the literacy movement of the G.V.S A "Samata" an association of the women activist of GVSA was formed in 1993. Eminent female scholars, scientists, writers, teachers from university, colleges and schools are involved with `Samata'. It helped the TLC in motivating people by organising Kalajatha. A massive Kalajatha programme was organised by `Samata on 8th March 1994 where five states of N E. Region assembled of Guwahati for a gala performance.

Samata believes in gender sensitization and women awareness. We have a programme called "Samata Vigyan Mela". Altogether 60 melas held so far. These melas were held throughout Assam where the women at the grassroot level exchange ideas on education, health, environment, panchayat, science through kitchen and nutrition. These melas mobilizes women workers of the panchayats. Most of these women are neoliterates.

An eighteen years old neo-literate girl from Lahowal block Ms. Bhabani Gogoi and one Ms. Rangila Medhi of Sipajhar composed poems after completing their second primer which have been later published in Gyan Vigyan Barta (a newspaper for neo-literate) A new-literate widow of a defence personnel got employment in the defence services. Besides, some children were admitted in the 4th standard of the formal schools after completing their neo-literate studies.

Literacy actually brings social change. We visualise a sense of empowerment. A neoliterate lady feels a change in her life-style. She is proud that she can read and write. She understands the importance of sending her children to school. Literacy makes her more self confident, independent in thinking and decision making.

In 1994 the volunteer instructresses of a block (Lahowal) felt listless when TLC ended in their block. They observed that the immiediate outcome of literacy was increase in the school enrolment. They felt, that the children below nine years needed to be dealt with as literacy has already covered the 9 to 45 years of age. They opened 50 Ankour Omalghars (Children play house). These activists voluntarily impart preschool education to children between 3 to 6 years of age. These volunteers are all trained teachers. The response of the female teachers offering voluntary service was so high that GVSA had to impose certain norms for the preschool teachers (e.g. She must have educated ten neo-literates, she must have passed the H.S.L.C. Exams. etc). In other two blocks (Sipajhar and Dhemaji) neo-literate women have formed co-operative groups and self financing groups. They have formed the Mahilla Samitis where they solve their own problems.

The GVSA was eager to know whether their literacy mission had any impact on the enrolment rates in the primary schools particularly in the case of female enrolment. A study launched for this purpose revealed that in the five blocks 50 per cent of the primary schools the enrolment of girls is either higher or equal. In one block (Sipajhar) half of the schools have higher enrolment of girls and all schools in Mairabari have equal or higher enrolment of girls. This is the outcome after the TLC.

* Registered under RNI in 1996.

Women participation is very high in the Post Literacy phase. For continuing education Gana Chetana Kendras (Public Libraries) were constituted in each ward of a village Panchayat. A total number of nearly 750 such centres are functioning. These are running under the supervision a volunteer co-ordinator. At least 230 such centres are run by the female coordinator teachers. This proves the effect of literacy on women in shouldering the responsibility of running a public library.

So, "Literacy makes the horizon wider and, at a more mundane level", says Shri Bhaskar Chaterjee, "helps to disseminate knowledge of a host of women's issues. The impact of literacy on women's lives has often been dramatic. Experience of Pudukottai in Tamil Nadu and of Nellore in Andhra Pradesh have shown how women have been empowered at individual and collective levels as a result of their participation. In Pudukottai, rural women enjoyed a new sense of freedom by learning the bicycle and acquired a sense of ownership. The women workers of stone querries constituted women co-operatives. In Nellore, we saw women enforcing prohibition at Post literacy phase by anti-arrack movement. The literacy campaign has given them the social sanction to come out of the four walls. Literacy classes not only relieving from their burden of daily chores but also brought about a heightened sense of self awarness. Through literacy, women become aware of their social and legal rights, they can learn and improve income generating skills, acquire a position in the affairs of the family and community and equal participation in the decision making. We talk of decentralised planning and 33 per cent reservation of women in panchayats. The vision will remain a vision if we do not go about strategically empowering women in that direction."

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Purposeful Education of the Girl Children and Social Transformation of the Deprived Groups : Innovative Experiments by ISDGEL, KOLHAPUR.

M.V. Sreedhar.[1]

Background

The neglect of Elementary Education has resulted in India getting the dubious distinction of being the largest producer fo the world's illiterates (482 million : 1991 census of India), and child labour (40 million 1996).[1] Despite huge investments in education, there are more children out of school today than at any time before. (61% in the age group of 6 to 9 years and 50% in the age group of 10 to 14 years) [2] These out of school children drift to child labour to grow up as adult illiterates. Incidentally almost the entire out of school children and the adult illiterates belong to the deprived groups who also fall in the lowest socio economic rung of the society. While the politicians attribute poverty as the reason for the children not going to school, the educationists condemn them as unfit for education owing to their so called low IQ and poorer heredity, though they may not have made public claims like, A.R. Jenson (1969 and 1973). [3]

The Institute for Socially Disadvantaged Groups Educational Improvement (ISDGEI) was established in 1985 to disprove both these assertions. It had set up three hypotheses, viz.,

i) No child is uneducable.

ii) If the deprived children fail to benefit from the formal education, the fault lies with the educational system and not with the children, hence the system must change and,

iii) The child is never at fault

A decade of working with the deprived children [4], all first generation learners, helped the ISDEI convineingly establish the validity of all the hypotheses. For achieveing its goals the Institute undertook a series of remedial and innovative steps. Some of these are listed below.

1) ***Socialization Process.*** [5]

Since the type of socialization process a deprived child undergoes in its infancy is different from that of the middle class children, on entering the middle class based schools at class 1, the deprived child finds itself on an unequal footing when compared with the middle class children. The discontinuity between the home experience and the school expectations is the principal cause for the deprived children in not benefitting from the formal education.

The first remedial step, therefore, is to offer to the deprived child `Equality of Abilities' to compete in education with their middle class counterparts. The Institute offers mainly through its creche units.

2) ***Pre-service orientation programmes to the teachers.***

Even though only the trained teachers are appointed, they are given a week's pre-service orientation course in which they are explained about the socialization process the children undergo, the phenomenon of self-fulfilling prophecy, [6] the need to inculcate a sense of belongingness to the school, not to punish the children in any manner let alone using a cane, need to inculcate a sense of self-discipline in children by explaining to them the cause and effect of various acts etc. Rather than finding fault with the child for a wrong asnwer, for example 5+4=8, the child should be helped to arrive at the correct answer through a discovery process. These and the other related issues are also discussed in the regular weekly staff meetings.

3) In the creche units, the children are accepted as they are. No questions are asked about their appearances or the language variety they bring to the class. Since parent-child communicative matrix in the deprived families is minimum, the children suffer not only from syntatical organization and subject continuity in language use but also retardedness in the development of

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[1] Institute For Socially Disadvantaged Groups Educational Improvement Rajendranagar, KOLHAPUR 416 004

the memory system. This short-coming is observed even in the upper class families, when the parent-child communication matrix is low (W Brandis and Dorothy Henderson 1969). [7]

Therefore, the effort of the creche teachers has been to encourage the children to speak in whichever variety they feel at ease The new entrants are exposed to spoken language through a monolongue pattern Story telling, role plays etc., are also used to improve language use. In the process the children learn the standard Marathi without tears.

In the creche units the entire language learning process takes place through oral presentations. The recognition of the script commences when they are 4 1/2 years old, and the writing of the script from class 1 onwards Script is not introduced in the conventional order but based on pattern congruity and shape similarity By using marbles or stones, summation and subtraction are taught even before the children can count upto 5.

In improving the language abilities and in developing an analytical mind, in class 1, only Marathi and Arithmetic are taught for two hours every day, against the four subjects in the other schools Science is added in class 2 and only in class 3 all the school subjects are taught.

4) ***Home Work***

Home work is the 'Achilles Heel' for the deprived children as their illiterate parents cannot help with the home work. Therefore, the entire home work/assignments given to the children is got done in the school hours itself under the supervision of the teachers.

5) ***Self Fulfilling Prophecy***

The realization that the teacher's expectations of their pupils performance may serve as self-fulfilling prophecy has created a new expectation that children can learn more than their actual performance And this has been fully exploited to the advantage of the children.

6) ***Relating school learning to the life experience outside the classroom.***

Since the contents in the text books have no relevance to the life outside the school, attempts are made to link the life outside the classroom with the textual lessons Further children are also taken outside the classroom to observe the objects in nature. (cf. Yashpal 1993)[8]

7) ***Role Play***

The role play not only fires imagination of the children but also helps in improving the listening and speaking habits. In addition it instills a self-confidence in the children. Role play is also used to clarify the concepts in the other subjects.

8) ***Additional Inputs to the Textual Materials.***

The ISDEI has fairly rich library including ency clopedies on different themes. Total information on different themes in the text books are collected from the library books and the information so collected is conveyed to the children along with the textual materials.

9) ***Class Tests***

The tests are not administered to pass/fail or to grade the children, rather for the teacher to understand to extend to which the teaching materials she had used are understood by the children properly. When the children secure less than the anticipated marks, the teacher goes into introspection to find out where she has gone wrong.

10) ***Immediate Reinforcement***

The answer scripts of all the tests are corrected the same day and returned to the children on the very next day for immediate reinforcement. Half yearly and annual examination papers are returned on the last day of the examination. Each question is discussed in the classroom and the correct answers are given to the children. For reliability and the validity of the tests the same question papers are readministered a fortnight later and the entire children secure better marks in the second tests.

11) ***Coaching Class***

Free coaching class is conducted daily from 5 p.m. to 6 p m. to bring the weak children to the class average.

12) ***Appointment of the Teachers***

In appointing the teachers, the American system of 'hire and fire' coupled with the 'carrot and stick' policy is adopted. This ensures the committed teacher to prosper while weeding out the Black Sheep.

13) ***Teacher Enrichment***

The teachers are deputed outside Kolhapur for training in the subjects of their interest. They are also deputed to attend the seminars and workshops on different themes. The entire expenses connected with such programmes are met by the ISDEI.

In addition the teachers are expected to read materials on their subjects from the library books, prepare notes and present the same in the staff meetings.

14) ***Craft Class And Vocational Training***

A separate teacher is appointed to engage craft classes from creche units to class 7. In addition, the Institute offers vocational trainings to the children from classes 5 to 7 in seven different trades.

15) ***Subject Specialization***

The teachers are given the subjects of their choice for e.g., if one opts for arithmetics, she would take arithmetics from classes 1 to 7. All the other schools have a class teachers who takes all the subjects in that class.

16) Science Lab practicals are regularly taken in all the classes. Different types of teaching aids are also used for enhancing learning.

17) Sex education is offered to the girl children above 12 years.

18) ***Environmental Education***

The Institute got a number of teachers trained at Pune in environmental studies. They have been incorporating environmental education in the textual materials. Vermiculture is being introduced from July, 97.

19) ***Open School : A unique Experiment***

The illiterate out of school working girls including school drop outs in the age group of 10 to 14 years are admitted in the open school. Admission is open throughout the year. The classes are kept open from 11 a.m. to 8.30 p.m. The working girl children can come whenever they are free from all the other activities. Individualized coaching is imparted. The efforts have been to prepare the children to appear at the class 4 exam in two years of their admission and then in another 2 years at class 7 exam. Thus a working girl child, illiterate at the time of entry, can pass class 7 exams within 4 years.

20) ***Night Schools For Full Time Girl Child Labourers.***

Night schools of 2 and 1/2 (6 to 8.30) hours duration are conducted in different slums of Kolhapur. Every centre has 25 to 30 girl child labourers. Up to 60 girl child labourers are taken every year to different coastal towns on a 15 day holiday camps. During the camps, detailed information on the Rights of the Child, evils of child labour, small family norms etc. are given.

21) ***NLM***

Adult literacy classes were conducted last year to all the women in the Rajendranagar slum. The women are also given free vocational training in different trades.

Achievements

What the ISDEI has achieved is to offer to the slum kids in its creche units a kind of parity in prepartion for school that home, community and the relative affluence offer to the middle class children. The immediate impact of this is visible at the primary level which has achieved enviable records. viz.,

1) Nil drop out, i.e., the girl children seeking admission in the creche units at the age of 2+ continue till passing class 7. Their mothers are thereafter persuaded to admit them at class 8 in high schools in the neighbourhood.
2) The illiterate working girl children who took admission in the open school 6-7 years ago are studing in class 9 or 10.
3) The children from class 3 onwards can read Marathi non-detailed books with comprehension, though all of them are first generation learners.
4) Total prevention of child marriage. Earlier the practice was to get the girls married off between the age of 3 and 10.
5) Creating a value for education of the girl child amongst the illiterate slum dwellers, and in addition imparting literacy to the adult women.

6) Creating an awareness amongst the slum women against the evil practice of child labour, child marrige and also regarding the gender divide, economic empowerment of women, small family norm etc.

Conclusion

The education of the girl child is over emphasised as her education now would benefit the generations to come from the improved quality of life that she can influence. Education for the girl child would also be a catalyst in the process of social transformation including the removal of injustice and inequality the Indian women suffer today.

In summing up it may be stated that a decade of experiments with the deprived children convinced the ISDEI that intellectually at birth, a Brahmin child and a Harijan child are on par. It is the differential environments that causes the differential attainments, i e., it is not the learning ability per se of the slum children that is deficient but only their background of experiences including the lifestyle and the language use. The prime reason for the deprived children in not benefitting from the formal education is the thrusting upon them the academic programmes conceived for another cultural universe.

Therefore what the deprived children need is a purposeful education that would offer to them equality of abilities to compute in education with their middle class counterparts rather than the meaningless reservations. [9]

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* A paper for presentation at a state level workshop on Innovations in Elementary Education. For preparing the paper, the organizers had given broad guidelines. These were:

a) The aims and objectives of setting up of the organization,
b) The steps taken to achieve the objectives and
c) Actual achievement

This paper was written keeping these 3 broad guidelines in view

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Incorporating the Essential Elements of the Mental Health for the Well-Being of Adolescents

A.N. Vijayamurthy[1]

The changing socio-economic, political scene and development in science and technology have brought about several changes in the lives of people. These require newer approaches to the problems both at micro and macro levels, but the components of our social system are reluctant to cope effectively with these changes. One such is the 'Educational settings'. In spite of the tremendous increase in the number of schools, and the emergence of newer problems relating to students, the society still expects 'The teacher alone' to shoulder all responsibilities of maintaining the activities of the schools. When the teacher finds no time to do justice to the changing syllabi, and when issues related to students behaviour adjustment and achievements are not handled properly, he is criticised. The teacher, thus, becomes an easy scape goat for all the problems in the school system.

It is worth remembering that apart from teachers, other professionals too are concerned with the welfare and development of students in general and disturbed students in particular. Some of these professionals are related to the field of mental health - pyschologists, psychiatrists, psychiatric social workers, psychiatric nurses, etc.

Adolescent Students

It has been observed that adolescent school age students are highly vulnerable to the limitations to the personal growth imposed by emotional disturbances and adjustmental difficulties of varying severities. Furthermore, problems in students are unique, in that many of the difficulties are related to developmental issues of gender, self-esteem, competition and cultural membership in a population in transition.

The students are very much under the dominance of their parents and other elders of the family. All important decisions of life pertaining to education, occupation and marriage are seldom left to youth. In effect, the Indian youth generally remains the prisoner of time and social environment. This situation unfolds a new environment which in turn creates stressful situations for students, powerfully influencing the behaviour in general and relationships in particular.

On interviewing a group of students of final year of the higher secondary stage, it was found that they commonly encountered the following problems related to social relationships.

a) Parents frequently criticising
b) Lack of real affection and love at home
c) Unpleasant relationship with parents
d) Parents insisting on strict obedience
e) Lack of pocket money
f) Parents objecting to the kind of friends and companions
g) Irritable nature of father/mother
h) Frequent quarrelling among siblings
i) Parents treating the grown up student as a child
j) Feeling that the friends have had happier home life than the individual

Some of the specific problems of adolescents are

1) Failure in schools
2) Behavioural problems
3) Emotional problems
4) Bodily problems without physical problems
5) Severe mental disorders
6) Moderate mental retardation

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7) Chronic physical illness and disability
8) Fits.

If these problems are not handled properly, they influence the study and school behaviour and such students are likely to show less interest in curricular and co-curricular activities, poor concentration in studies, repeated failure, truancy and school dropouts.

Schools Potential for Promoting Mental Health

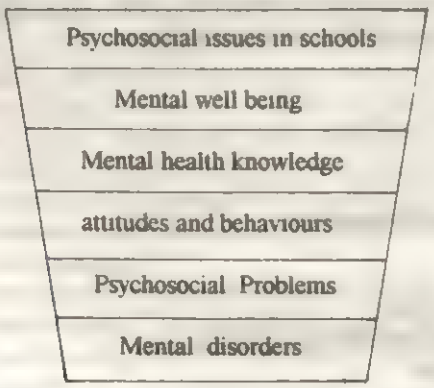
According to the latest report of WHO (1994), the schools have an unprecedented opportunity to improve the lives of young people. As nations have moved towards a commitment to universal education, schools are finding it necessary to expand their role by providing health services including mental health services to deal with the factors interfering with schooling.

Schools, with the full support of families and the community, are currently the best place to develop a comprehensive mental health programme for children because:

- Almost all children attend school at some times during their lives.
- Schools are often the strongest social and educational institutions available to intervention.
- Schools have a profound influence on children, their families and the community.
- Young peoples ability and motivation to stay in schools, to learn, and to utilize what they learn is affected by their mental well being.
- In addition to the family, schools are crucial in building or undermining self esteem and a sense of competence.
- School mental health programme are effective in improving, mental well-being and in treating mental disorders.
- When teachers are actively involved in mental health programmes, the interventions can reach generations of children.
- Teachers have often received some training in developmental principles. This makes them potentially well qualified to identify and remedy mental health difficulties in school aged children

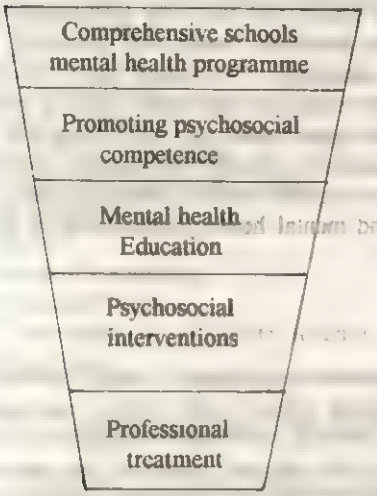
A Model Framework for School Mental Health Programmes

The following diagram illustrates the psychosocial and mental health issues present in all the schools and indicates who is likely to be affected by these issues :



Intervention Model

Successful models of intervention can be found at four levels:



Level of intervention

i) Integrated into school curriculum

ii) Part of general health curriculum

iii) Students needing additional help in school

iv) Students needing additional mental health intervention

Levels I through IV can be likened to primary, secondary and tertiary prevention efforts. Primary prevention and health promotion (Levels I and II) target the causes of healthy and unhealthy conditions with interventions which promote healthy behaviours and prevent a disorder from developing. Secondary prevention (Level III) targets a more selected population of high risk people to protest against the onset of the disorder. Tertiary prevention (Level IV) targets people who already have developed the disorder with the intent of treating the disorder, reducing the impairment from the disorder, and/or preventing relapse.

Some of the approaches adopted in Indian setting are briefly dealt with:

a) School counselling or school social work
b) General mental health orientation to school teachers
c) Counselling skill orientation to teachers
d) Mental health education to students
e) Student enrichment programmes
f) Life skill education for children, adolescents in schools
g) Family life orientation to high school students
h) Strengthening parent-teacher associations (PTAs)
i) Incorporating the mental health package programme in the teacher training curriculum.

School Counselling or School Social Work

Professional social workers are those who are trained in a school of social work or post graduate department of social work affiliated to a university. They undergo intensive training in the application of behavioural and social sciences to human problem situations. Apart from theoretical aspects, they spent not less than 40% of the course time in field work in different settings-industrial, educational, health, welfare, correctional and developmental. Exposure to schools is an integral part of the training.

After training in child and adolescent mental health, family therapy, community mental health and related areas, such a social worker with his M.A. to M.S.W. or M. Phil. degree is well equipped to work with pupils, teachers and parents to help them to help themselves. If the school administrators and policy makers are serious about students' development, they need to make use of the expertise of such trained social workers who could be vital sources in counselling and guidance services, organising group activities, strengthening parent-teacher associations, establishing school community linkages and in other activities for the development of the emotional, interpersonal, intellectual and social competence to students.

General Mental Health Orientation to School Teachers

Such programmes could be offered to all the teachers of both primary and secondary schools. Here, the focus is on the basic unederstanding of mental health and the early manifestations of the emotional problems, epilepsy, mental retardation, speech problems, causes and treatment facilities available for the management of these problems in the community. The mental health professionals require about 6 to 8 sessions - each session for about an hour to discuss these topics with the teachers. In addition to these topics other issues if any, specific to the region could also be incorporated into the orientation programme, which in turn would help the teachers to identify the common mental health problems among children and adolescents, and to refer them to suitable service centres like child guidance clinics, counselling services, institutes of mental health and mental health professionals in the nearby places.

Counselling Skills Orientation for Teachers

The teachers who have undergone the general orientation programme in mental health could be given intensive training in skills of interviewing, establishing rapport with children and counselling techniques like clarification, environmental manipulation, listening, ventilation, education and guidance to parents. It requires about 35 to 40 one hour sessions with adequate provision for practical work 'problem children' and necessary demonstrations. At the end of the course, the teacher would be equipped with necessary skills and counselling for emotionally disturbed children and adolescents in schools. By this method, the self-esteem of the teachers would improve considerably and their approach to the children is likely to become more humanistic and scientific.

Mental Health Education to Students

Students could be oriented towards mental health as well as mental health problems in about 5 to 6 sessions. Such efforts would enable them to understand the causes and manifestations of severe psychiatric disturbances, minor psychiatric problems, epilepsy and mental retardation. The students are enabled to understand themselves and also help others who are in need of mental health services in their neighbourhood especially in rural areas. The students' negative attitude thus could be changed into positive behaviour of extending support to the emotionally disturbed persons and disabled in the community.

Student Enrichment Programme

This programme is focussed on promotion of mental health skills and development of learning potentials. It is more suitable to first generation learners. After identifying the common needs in a particular school, specific programmes could be designed to cater to the felt needs like personality development, self-esteem, interpersonal competence, improvement of memory, socialisation, scholastic performance, sex education and family life education. In one of the programmes conducted in Rural High School, ten areas are found to be useful and effective to enable the students.

- How to study effectively
- Causes and remedies of failure in examination.
- Characteristics of efficient students.
- Preparing for examinations.
- Prevention of health problems.
- Knowing about self and others.
- Root causes of interpersonal difficulties.
- Orientation to future.
- Pupil-teacher expectations.
- Principles of mental health.

Usually these programmes are classroom oriented, group-centred, and they require about 25 sessions.

Life Skills Education for Children, Adolescents in Schools

WHO (1994) advocates life skills education for children and adolescents in schools. In such programmes, emphasis is given to the following life skills:

- decision-making
- problem-solving
- creative thinking
- critical thinking
- effective communication
- interpersonal relationship skills
- self-awareness
- empathy
- coping with emotions
- coping with stress.

These skills, if acquired by students, will help promote the overall well-being and prevent many emotional problems.

Family Life Orientation to High School Students.

Considering the developmental needs of adolescents, it is important to give them a structured orientation about four components.

1. Physical development
2. Social aspects
3. Sex roles
4. Sexually transmitted diseases.

By such orientation, the students could be given scientific information on developmental stages, tasks, roles and responsibilities and allied issues. By such exposure, the students will have a healthy outlook to life, high self-esteem, meaningful relationship with others and active involvement in curricular and co-curricular activities. As a result, they won't become the victims of deviant behaviour and will not be unduly influenced by the mass media and other activities in their milieu.

Strengthening Parent-Teacher Association (PTA's)

Seminars and workshops could be organised for the parents and teachers on topics like `Students scholastic performance', `adolescent problems', `generation gap', `study habits', `learning environment in families', `promotion of mental health', `child rearing practices', `drug dependence', `self-esteem' and `value education'. Such programmes could enable the parents and teachers to understand the dynamics of human behaviour and intricacies of interpersonal relationships. This will go a long way in strengthening parents contribution as well as intensifying teachers commitment towards overall development of school children.

Thus, the parent-teachers association contribution through mental health programmes will improve the quality of life of children and adolescents in schools.

Incorporating Mental Health Package Programme in the Teacher Training Curriculum

The author has tried out some exercises to incorporate the mental health components into B.Ed. curriculum. Following are the topics and sessions organised for the student teachers.

Topics	No. of Sessions
1. Concept of mental health - meaning -illness - normality and abnormality	02
2. Physiological basis of human behaviour -Parts of brain-functions	01

3.	Psychosocial basis of human behaviour - psychological and sociological factors of development		02
4.	Personality - meaning - types	01	
5.	Common mental disorders in the community -causes and presentation	03	
6.	Common mental disorders in children and adolescents	02	
7.	Mental retardation	01	
8.	Scholastic backwardness and its management		01
9.	Childhood disorders - stress and stress related disorders - coping	02	
10.	Specific mental health problems of students	02	
11	Understanding sex- sexual roles - sexual health		02
12.	Interpersonal relationships	02	
13.	Use of behavioural principles in the classroom situations - shaping the behaviour of students	01	
14.	Positive health - physical - mental and social	01	
15.	Mental health care services	01	
16.	Counselling	04	
17.	Study methods - examination techniques - required attitudes and motivation	02	

In addition to the above programme, value-based activities like name tag description, sentence completion, rank ordering, personality traits, role plays and two short films on mental health were also included in the programme.

It was found that this has a positive impact on teacher trainees attitude towards teaching profession, study habits, self-esteem and their attitude towards mental illness.

By these efforts, the schools will have the following characteristics of child friendly natured components.

1) The school should promote tolerance and equality between boys and girls and between children of different caste, religion and social groups. The key to happiness is to feel accepted and not to be rejected because of one's religion or because of disability in complete negation of one's value as an individual and can be fatal blow to the development of a child's sense of self-worth.

2) The learning environment should be based atleast to some extent on active involvement and cooperation. Active involvement of children for their own learning is the key to empowering children to take responsibility for their actions.
Children should have some mechanism to express their opinion regarding school work and school life. Children should be encouraged to contribute during each lesson by asking questions and to find out more about the subject.

3) As has been observed, in the National Education Policy, corporal punishment needs to be firmly excluded from the school system. Physical punishment may promote conformity in the short term, but research findings suggest that it tends to increase the probability of aggression and deviance.

4) Harmful behaviours like hitting, pushing, and other physical abuse or malicious teasing and other psychological tortures need the careful attention of teachers and administrators. If such problems are not well handled, it creates an atmosphere of fear which can be detrimental to the school.

5) Every child has emotional needs and will experience moments of emotional distress, for example a loss of a family member, could lead to adjustmental difficulties and allied stresses. The school environment should be a sensitive and caring one, that which is able to support children through difficult experiences. If the teachers are trained in simple skills of counselling, they can extend their services in a better way.

6) The contents of education should respect the child's experience of life as an important starting point for learning.
They should have opportunities to develop projects which provide assistance to local communities.

7) Parent-Teachers' Associations should function effectively, parents should be encouraged to support the consolidation of the child's learning at home. Teachers should be kept informed about the major changes at home regarding every child.

8) Schools should provide all opportunities for children to express their creativity and academic abilities. They should have creative learning experiences through co-curricular activities like music, art or theatre which are free from the tension of competition and examination.

9) The school promotes the self-esteem and self confidence of children. Negative comments about the child's performance of work are always coupled with constructive suggestions for improvements and the positive observation of the child's achievements, however small.

10) Children from socially disadvantaged groups need to be given special attention towards their needs like mid- day meals, learning material, transport, uniforms, examination fee, scholarships and other allied requirements.

In the Indian context, yet another issue which requires special attention is the amount of homework and number of books and other material to be carried by children.

Such efforts are collectively shouldered by representatives of the educational authorities, teachers' unions and parent-teachers associations. Unless the policy makers are committed to the cause of child-friendly schools, translating it into reality could be problematic.

In other words, for making school life more lively, meaningful and enjoyable, each and every one of us have to contribute our mind - creative ideas, resources, time, guidelines and other mechanisms towards the achievement of the goal.

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Education for Prioritized Groups : Girls from Difficult Pockets

Sudesh Mukhopadhyay[1]

Introduction

India is a land of many diversities. These diversities are observable in the educational scenario across the country. While on one hand there are districts and pockets which stand for the best possible educational scenario, there are also states and districts and pockets which even today appear to be behind the normal pace by quite a few decades. Literacy is one consideration and presently one of the major agenda before the government, social groups and even political parties. Government of India is making continuous efforts for the improvement of education both in terms of expanding the opportunities as well as improving the quality. However even today there are problems in attaining the basic literacy skills by all. The issue is more alarming when it comes to the education of the girls.

India has a female literacy rate of 8.86 in 1951 which is now 38.19 (1991 survey). Even today there are more than ten large states where the female literacy is not only lower than national level but in certain pockets it is less than three per cent. There are about 125 such districts where female literacy rate is 16 29 or below. This is of great concern as this weakness can lead to slowing the progress on other fronts - economic, social, education, health, etc. Female education has been found to be have impact on population growth rate, child mortality rate and other indicators of development.

There appears to be some fundamental gaps in understanding the phenomenon of developments and interventions planned. Some districts have been found to be continuously lagging behind, just as small states have shown sign of progress while larger states are still as much backward as they were a decade back. These large states are important as these also affect the decision making through political systems and also have an impact on socio-economic developments. It was with this background that an attempt was made to study the status of girls from one of the remote districts in the state of Rajasthan (one of the large states) and understand the reasons for low literacy profile. The profile was studied from the view point of the availability of educational resources, educational environment, general opinion about education, impact of nomads and relationship with other development schemes.

The Context

Rajasthan is one of the largest states with limited resources and difficult life conditions both due to its geographic conditions as well as being a border state with some districts being located at critical strategic points. In 1951, it had a literacy rate of nine per cent which has increased to 30.6 in 1991. This growth can be attributed to financial inputs, expansion of educational facilities, expansion of resources for education and a large number of innovative programmes undertaken to improve the conditions. This also indicates the will of the people and government to improve the educational levels irrespective of droughts and floods. In a state of 30 districts at least 20 are below the state average.

Table I gives the details of literacy rates across the state. **Table II** gives more details for the districts below state average.

An exploratory study was undertaken in the district of **Barmer.** This is the district with lowest literacy rates to ascertain the district specific causes of continuous low female literacy. An attempt was also made to infer state specific interventions that may facilitate the improvement of literacy in general and female literacy in specific in such districts.

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TABLE I

Literacy Rate in the Districts of Rajasthan, 1991

District	Total Population	Rank	Male	Rank	Female	Rank	Rural						Urban					
							Total Population	Rank	Male	Rank	Female	Rank	Total Population	Rank	Male	Rank	Female	Rank
Sri Ganganagar	41.82	23	55.29	21	26.39	26	35.75	25	50.07	22	19.5	29	64.18	16	71.17	7	52.36	20
Bikaner	41.73	22	54.63	20	27 03	27	24.07	7	37.59	5	8 84	5	67 01	19	78.7	16	53 47	22
Churu	34.78	14	51.3	16	17.32	19	26 89	11	43.6	12	9.31	9	53.89	3	69.83	3	36 88	4
JhunJhunu	47.6	27	68.32	28	25.54	25	44.65	30	66.23	30	22 04	30	58.79	8	76 01	9	39.36	7
Alwar	43.09	26	60 98	24	22.54	23	38.02	27	56.76	26	16 73	28	72.73	26	84 86	26	57.89	25
Bharatpur	42.96	25	62.11	25	19.6	20	37.84	26	58.43	28	9.89	24	63.37	14	77.07	13	47 25	16
Dholpur	35.09	16	50 45	12	15 25	9	31.01	19	47.13	18	9.37	14	54.31	4	66.64	1	39.36	7
Sawai Madhopur	35.86	17	53.97	18	14 52	7	31 31	20	49.82	21	12.32	10	60.41	10	76.32	11	41.96	11
Jaipur	50.38	28	66.77	27	31.84	29	35.05	23	55 52	25	10.9	23	67.69	21	79 23	19	54.36	24
Dousa	36.87	20	56.75	23	14.15	6	33.96	22	54.15	23	15 42	19	60 85	11	78 07	15	41 01	10
Sikar	42.49	24	64.13	26	19.88	21	39.03	29	61.8	29	13 96	26	55.4	5	72.7	6	36 82	3
Ajmer	53.34	29	68 75	29	34.5	28	35 1	24	54.97	24	9 48	25	76.49	29	87 56	30	64.07	28
Tonk	33.67	12	50.64	14	15.24	8	28.29	16	45 68	16	4 71	12	55.78	6	70.9	4	39 15	6
Jaisalmer	30.5	4	44.99	4	11.28	3	23.1	5	37 92	6	6 49	2	66 49	18	80 89	20	47 21	15
Jodhpur	40.69	21	56.74	22	22.58	24	26	10	43 82	13	4 71	4	66.33	17	78 44	16	51.93	19
Nagaur	31.8	7	49.35	11	13.29	4	28.14	15	45.76	15	9 75	15	51.05	1	67 64	2	32.54	1
Pali	35.96	18	54.42	19	16 97	15	30.13	18	48.63	19	11 47	20	56 91	7	74.27	8	37 68	5
Barmer	22.98	1	36 56	1	7.68	1	18.79	1	31.83	1	4.2	1	59.84	9	76.96	12	39.04	9
Jalor	23.76	2	38.97	3	7.75	2	21 36	2	36 2	3	5 85	3	53.86	2	72.32	5	32 79	2
Sirohi	31.94	8	46.24	7	16.99	16	23.05	4	36.57	4	9 23	7	67.33	20	82 78	23	49 72	17
Bhilwara	31.65	6	45.95	6	16.5	14	24 31	8	38.36	7	9.61	13	61 89	12	76 13	10	45.09	13
Udaipur	34.9	15	48.73	10	20 41	22	24.71	9	38 97	8	10 08	16	76 01	28	86 16	28	64 44	29
Rajasmond	33.09	11	50.66	15	15.54	11	28.32	17	46	17	10 87	18	67.96	23	83 19	25	51.42	18
Chittorgarh	34.28	13	50.55	13	17.15	17	27 8	14	44.37	14	10.55	17	68.88	24	82.28	22	53 81	23
Dungarpur	30.55	5	45.71	5	15.4	10	27.01	13	42.26	11	11 92	21	73 91	27	85 5	27	60.9	27
Banswarda	26	3	38 16	2	13.42	5	21.46	3	33.7	2	8 87	6	77 45	30	87 09	29	66.85	30
Bundi	32.75	9	47.04	8	16 13	12	26 02	6	40 65	9	9 39	11	63 87	15	78 84	18	47.09	14
Kota	55.24	30	70 66	30	37 56	30	38 3	28	57.74	27	16 39	27	71.42	25	82 84	24	58.14	26
Boran	26.57	19	53.76	17	17.22	18	31 93	21	49 45	20	12 25	22	62.09	13	77 27	14	44.75	12
Jhalawada	32.94	10	48.22	9	16.18	13	26.32	12	41.89	10	9 29	8	67 7	22	81 19	21	52.67	21

Source : Annual Progress Report, Educationa (Primary and Middle) Deptt., Govt. of Rajasthan, March 1995 (In Increasing Order)

TABLE II

Districts with Literacy rates below the State Literacy Rate - 1991

District				Rural			Urban		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
Barmer	22.98(1)	36.56(1)	7.68(1)	18.79(1)	31.83(1)	4.26(1)	59.84(9)	76.96(12)	39.40(9)
Jalore	23.76(2)	38.97(3)	7.75(2)	21.36(2)	36 20(8)	5.85(3)	53.86(2)	72.32(5)	32.79(2)
Banswara	26.00(3)	38.16(2)	13.42(5)	21.46(3)	33.70(2)	8.87(6)	77.45(30)	87.69(29)	66.88(30)
Jaisalmer	30.05(4)	44.94(4)	15.24(8)	23.10(5)	37.92(6)	4.71(2)	66.49(18)	80.89(19)	47.21(15)
Dungarpur	30.55(5)	45.71(5)	15.40(9)	27.01(5)	42.26(11)	11.92(21)	73.92(27)	85.50(26)	60.90(27)
Bhilwara	36.65(6)	45.95(6)	16.50(14)	24.31(8)	38.36(7)	9.61(13)	61.89(12)	76.13(10)	45.90(13)
Nagore	31.80(7)	49.35(11)	13.29(4)	28.14(18)	45.76(15)	9.75(15)	51.05(11)	67.64(2)	32.54(1)
Sirohi	31.94(8)	46.24(7)	16.99(6)	23.05(4)	36.87(4)	9.23(1)	61.33(20)	82.78(22)	32.79(2)
Boondi	32.75(9)	47.40(8)	16.19(13)	26.02(6)	40.65(9)	9.39(11)	63.87(15)	78.84(17)	47.09(14)
Jhalawar	32.94(10)	48.22(9)	16.18(13)	26.82(7)	41.89(10)	9.29(8)	67.70(22)	81.19(20)	52.67(21)
Rajasmond	33.09(11)	50.66(13)	17.15(17)	28.32(17)	46.00(17)	10.87(18)	67.96(23)	83.19(24)	51.42(5)
Tonk	33.07(12)	50.64(14)	15.24(8)	28.29(16)	45.68(16)	9.48(12)	55.78(6)	70.19(9)	39.15(6)
State	38.55	54.99	20.44	30.37	47.64	11.59	65.33	78.80	50.24

* (1) Districts of minimum literacy rate
* Out of 30 districts 12 districts are below the State's average literacy rates, especially the female literacy rate is very poor.

Barmer District - A Contextual Analysis

Barmer is one of the border districts of Rajasthan. Out of 8 Panchayat Samitis 3 Panchayat Samiti areas are located on the Indo-Pak border (Sheo, Chohtan [illegible] Barmer). The inhabitants of these Panchayat Samitis are mostly immigrants of the war of 1971. The other Panchayat Samitis are inhabited by Jats, Rajputs, Rana Rajputs, Muslims, Bheels, Meghwals, Charans, Sansis, Luhars, etc., most of them are listed either as OBC and SCs or STs. The villages/dhanis are a mixed population of various combinations.

The concept of village geographically acquires a different definition in this district. In some pockets and Panchayat Samitis, a village may be a cluster of Dhanis, Tilas, Gafans spread over 10-15 kms or more. One village may be located quite far off from the other, separated by fields, uncultivated lands, Sand danubes or small hillocks. However, the main road links up most of these clusters/villages as water points are nearer to the roads.

The other specific characteristics of this district are

- The people are either cultivators or labourers engaged in animal rearing.
- There is a tendency of seasonal migration (December and January till July-August) to neighbouring states and districts.
- Due to historical reasons being associated with 'Raja' Culture many people prefer to beg rather than take up small jobs.
- Women and girls occupy a central position in the economic activities besides being the home caretaker.
- Water collection accounts for being the most time consuming activity in day to day life besides fuel collection which occupies a secondary place in this desert district.

Environment for Education

Table III gives a picture of literacy status of various panchayat samitis in Barmer district.

Barmer is basically rural in nature. The female literacy ranges from 2.23 to 7.06. Three Panchayat Samitis were studied in details - Chohtan, Barmer and Balotra with respective female literacy rates of 6.93, 3.43 and 2.23 per cent.

There was an opportunity to interact with teachers, children and community members as a literacy campaign was in progress in **Balotra**. Samiti wise observations are as under

a) ***Balotra***

- Boys are three times more than girls in the schools.
- About 30-40 children enrol in Class I but after class I the number of girls reduce to 10, 3, 3 in classes II, III and IV (Example from Charli Khurd).
- In a village (Sarbari Rajpurohit) with 60 houses and 700 population, only 10 boys out of 75 in the age range 6-14 go to school.
- The literacy campaign was being attended by the ex-village pradhans mostly husbands of present female village Pradhans (absent due to being ill!). However, they could be contacted at home.
- All the women participating in the meet belonged to weaker sections and were covering their faces.

b) **Sheo**

- In Sheo, the villages were mainly located near to road side as water tanks were constructed near to roads.
- People from 'Sansi' tribe were found to be poor and illiterate. Other communities do not interact with them.
- The 'Dhani' was found to be a single family location. The male member has gone to the neighbouring state in search of job. The lady of the house and girl runs the house with the help of a male relative. Girl was attending school besides running an NFE Centre. Economically the family was sound but drinking water posed the main problem.
- 'Meghwal' another community was found to be prone to education as male members could get jobs after receiving education. School was also located nearer to the habitation.

TABLE III

Literacy Profile of District Barmer

District Panchayat Samiti	Total			Rural			Urban		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
District Barmer	23 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

c) ***Chohtan***

- Chohtan was located nearer to the Border. It has attracted interventions from Shiksha Karmis and Lok Jumbish. The project could enrol 463 girls from the total eligible of 1080 girls.
- Majority of the families have shifted to the neighbouring state (Gujarat) for job. Water was available once in three days. Lok Jumbish project has provided for a school, water tank and two Shiksha Karmis, Six girls were staying in a hostel run by villages old woman.

All these observations indicate that special characteristics of the remote areas necessitate to bring out the relevance of education in the local contexts. Initiative for education will not be from the people. They would wait for a catalyst. Many primary schools were found to be unopened.

In this social -economic-geographical scenario, education is a low priority. One runs into circles as far as this issue is concerned. For example lack of education results in total absence of initiatives- life style is to patiently wait for rain, for water, for jobs, etc. even though hardwork is not the issue Even a three year old has some work assigned to him and her. Hence `will to work` is the strength of these people.

Issues

Related to the issue of education in such difficult areas are the following questions:

- Why should girls be educated? Who will help and work in the homes? Who will release older women for `earning` activities?
- Will jobs be available? If yes, then primary education of five years does not lead to any job, at least 8 year's education is minimum, ten years more appropriate.
- Why should girls go to boys school? Due to late start of education for many children, age 9-10 is more related to `earning activities` hence withdrawal from schools (Table IV)
- Teachers do not come regularly, even if they come they do not teach, why should then children go to schools?
- School is at a distance, consumes at times one or more hour, it means total loss of 7-8 hrs. of prime time (10.30 - 4.30 school timings + time for commuting + time when children engage in play while going and coming from schools).
- How can they study at home when facility for light at home is not available and day is consumed in commuting and doing other work?
- This results in frequent absence from schools. Which is also evident from poor health conditions, seasonal pressure for work at home, migration of parents.
- Women teachers are few. Out of 2592 teachers only 373 are women teachers accounting for 1270 schools at primary level and 103 women teachers out of 1393 upper primary teachers.
- Only three girl's schools are at primary level and nine are at upper primary level. It is not uncommon to find boys in the so called `girls' schools.

Table IV gives more information on status of primary schools to substantiate these points

TABLE IV Position of Schools in a District-Barmer

Primary Schools

Type	No.	Male Teacher	Lady Teacher	Total
Education Deptt.	28	55	14	69
Zila Parishad	1239	2164	345	2509
Girls Schools	3	-	14	14
Total	1270	2219	373	2592

Upper Primary Schools

Type	No.	Male Teacher	Lady Teacher	Total
Education Deptt.	248	1293	25	1318
Girls Schools	9	2	78	80
Total	257	1295	103	1393

- No role models to substantiate the cause of education as perceived by educationists, administrators, political leaders nearer to people as well as those who are distant.

Other Developmental Interventions

- Panchayat elections have necessitated election of 'women' Surpanch or Members. The fact remains that many male Surpanch are illiterate, elected women members neither interact with women/persons/children non come out with or without Pardhan. The Psuedo leaders are still mostly illiterate Male folk.
- ICDS workers in the village are mostly women - either illiterate or at times educated upto 5 to 8 years. However, they themselves are shy of interactions, lack initiative and mainly perform activities of 'distributing' food. They are definitely not the 'pace-setters' of change or opinion makers.
- Health workers are mostly men, so are other workers in various schemes.
- Most of these workers including Male and Female teachers except for ICDS workers commute to place of work from neighbouring larger establishments.
- There is a general low expectations or indifference towards these workers and government schemes. "They promise but do not provide, what do they know about us?", some of these observations can be verified with direct experience. However, exceptions can not be denied.

This type of scenario for education has raised a few questions:

- Are the present norms of providing educational facilities in tune with the specific conditions of this district or pockets within various Panchayat Samitis?
- Is the lack of motivation for education the problem of any spcific groups/communities?
- What would be the measure(s) for breaking this inertia - lack of initiative, urgency and search for solutions?
- Who can be the critical agent to set the things in Motion?
- What are the specific messages for the Department of Education?

Suggestions

In the light of questions raised above, the following solutions can be tried:

A. ***Flexibility in Norms for Providing Educational Facilities***

This district makes a strong case for flexibility in norms for providing educational facilities to suit local conditions. This may appear a costly approach but in the long run would be more economical:

1. A girls' primary school with 25-30 girls in primary section may be planned as there is a continuous demands for these single sex schools.
2. Girl's hostels as being tried out in Lok Jumbish/Shiksha Karmi Project may be opened in villages with tendency to migrate. This will also facilitate education for older girls in the evening.
3. ICDS/ECCE facility may be provided in the primary schools with timings adopted so that girls are not retained at home for taking care of younger siblings.
4. School building construction design should invariably have provision of water tanks and children be allowed to take one pitcher water in times of scarcity. (Drinking water can be used as incentive)
5. The primary classes specially class I and II may be held for about 3 to 4 hours so as to free more time to the girls for their social roles and economic activities.
6. Vacant posts in primary schools may be filled up immediately so that schools are not closed due to shortage of teachers.
7. School curriculum even at primary level may be made vocation oriented due to emphasis on economic roles of girls from very young age. It can also facilitate earning capacity while migrating.

A. ***Motivation for Education***

The Micro-level data, interaction and observation indicate that the **problem of lack of motivation is across all community groups.** But in view of the Socio-economic and historical contexts, interventions cannot/need not be generalised.

2. The provision of foodgrains is attracting enrolment from all poor sections irrespective of castes, however, the system of distribution of coupans to children need to be reviewed as it is not convenient for all parents to come and collect.
3. Eighty per cent norm for attendance need to be interpretted with more sensitivity **across seasons** due to the nature of economic activity in this district.

Exploring possibilities whether coupan collection by parents/delivering coupans by teachers at home can be turned into occasions for parents/mother-teacher meeting to discuss progress of children especially girls.

3 While negotiating objectives of 'education', routine examplars of earning livelihood, reading letters, bus routes, etc need to be modified and substituted with more suitable examplars for this specific district as most of these communities are neither "service" oriented nor have any interaction outside the immediate village context.

C. ***Role Models***

Most of the villages in this area have low achievement motivation in absence of Role models in day to-day life or by any other means of mass communication.

1. For example, can Total Literacy Campaign prioritize to present elected Male/female Members as 'literates', and ensure participation of all children from such families in schools.
2. Various leaders/officials may bring their wives for meetings at least on critical occasions.
3. The awareness campaigns can go beyond day to day existence examplars and bring in right proportions challenges and examplars from outside world. For example, "teachers also manage their families and earns livelihood".
4. Folk media is first hand experience, but radio-television also exists

D. ***Breaking Inertia***

Inertia is widely prevalent within the villages, communities and even in service providing organisations e.g DEO, DIET Faculty and even Zila Parishad functionaries. There is a need to develop districts specific understanding and strategies for improving rather than persuing an approach of 'following orders from the top'.

It is surprising that practically no efforts have been made to expose or share with villagers, teachers, gramsewaks, Headteachers, DEOs, etc. the issues and ways of dealing with such issues as persistant low profile, lack of motivation, etc. Textbook approach would be insufficient to deal with issues leading to low literacy and low development profile of this district.

E. ***Critical Agent***

Elected Women Members, women teachers and other workers may be considered as critical agents. However, given the scenario in the district, **men have to be the basic change agents.** Women folk in general are aware for the need to learn and educate but scared/doubtful of cooperation from men.

- Programmes for Men - Government officials, elected Members, faculty heads for sensitisation need to be organised.
- There is an immediate need for the analyse of daily routine of various age groups in various communities and negotiating 'time release' proposals.
- District-wise recruitment policy as followed in other states can be tried out in few districts on experimental basis.
- Special 'difficult' area allowance may be given to women teachers or even male teachers with accountability fixed on minimum achievement rather than enrolment.
- Foodgrains distributions with enhanced quota can be tried for 'achievement' related targets.
- Families with educated girls can be given some privileges critical to local scenario.

- Sarswati Yojana can be tried. But it is to be noted that in many places 'educated women' and even boys are not available. This need to be adapted for pockets within the village rather than mechanical implementation of an idea. Even Shiksha Karmis within a given village may not be available.

Action Points

1. Greater coordination between Education Department and Zila Parishad bodies especially for Primary Education.
2. Immediate recruitment and placement of teachers, preferably of women from within district for increasing stability.
3. Special incentives for women teachers/rural areas.
4. Working women's hostel at cluster level can be tried to reduce commuting time as well as reduce isolation.
5. As an incentive two days Extra Ordinary Leave per month to be linked with second Saturday, Sunday with provision for commulation for three months can be tried out if (a) she continuously stays in the village, nearer to school, (b) devotes 4 hours to schools and 2 hours in TLC/NFE, Gram Sabha is to ensure safety of women.
6. Special incentives can be considered for families sending girls to schools and achieving MLLs.
7. Mobile teachers from within the village/community can be tried for Nomad/Mobile population.

Summing up

The case study referred above is only an exemplar to stress the point that education for prioritized groups would always require an understanding of the group in its context. Research and empirical information would need to be generated to understand the interaction between context, needs and interventions planned. Generalised solutions emerging from perceptions of elite thinking may not be the answer. Focussed group discussions alongwith first hand experiences can show better results than prolonged classical type researches though its importance cannot be negated.

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Impact of Parental Educational Status Upon Drop Out/Regular Participation Behaviour Among Slum Children in Kanpur City

Mridula Bhaduria[1]

Slums have become an inevitable factor of urban life. The slum has come to be accepted as a living reality, an inevitable phenomena accompanying urban growth. This has become a universal problem as almost all the big cities of the world have slums. The slums are increasing day by day defying all attempts of planned urban development. The search for livelihood and utter poverty are the two main reasons of the migration of rural poor to urban areas.

In Kanpur city, the slums are developed generally in the form of 'Ahatas'. Besides this the slums are developed on the either side of railway lines or any area which has been found vacant near the working place of the workers. In 1948 the slum dwelling population in Kanpur City was 81,825 whereas it was increased to 2,86,8409 in 1988. According to U.N. Handbook of Housing Statistics, 1982-83 approximately 40.34% of the total population of Kanpur was living in slums in 1981, whereas it was 35.35% in Calcutta. 38 30% in Greater Bombay, 30.19% in Delhi and 31.87 in Madras.

United Nations' Report on 'Improvement of Slums and Uncontrolled Settlements' stresses that health, education and social welfare assume greater importance in programmes of slum improvement than housing and other public services. Of them, education is the foremost single factor that can improve the economic and social life of the slum dwellers. Better employment, higher income and better living conditions are associated with education.

Education for all children has long been a goal of Indian democracy. Inspite of the importance of education in the improvement of slum life, the slum dwellers do not fully participate in the process of education.Perhaps they have some problems in not sending their children to schools. The problems may be economical, social or personal But it is true that the spread of education in slums is totally unsatisfactory. For slum upgradation, Slums Urban Development Authority (SUDA cell) of Kanpur has started some schemes but they are limited only to the upgradation of their socio economic status.

The most striking problem of education in slums is the problem of dropping out. Though the school drop-out phenomena, is a nationwide problem yet it is more intensive in slum areas. If we concentrate on the slums of Kanpur, we find that the drop-out rate is very high. There are various reasons of high drop-out rate among slum children as poverty and indifference and low educational status of parents, children's engagement in work at home or outside, ill health, lack of guidance at home, irrelevant education, lack of instructional material, lack of any vocational training, lack of interest etc. In this study the researcher has tried to evaluate the impact of parental educational status upon drop out/regular participation behaviour of slum children in Kanpur City. For this study 500 drop-outs and 500 regular students have been choosen as sample.

TABLE - I Educational Level of Father/Guardian

S.L.	Educational Status of Father/Guardian	Drop Out	Regular No.
1	Illiterate	266 (53.20%)	93 (18.60%)
2	Can Sign	78 (15.60%)	26 (5.20%)
3	Able to read/write	39 (7.80%)	63 (12.60%)
4	Lower Primary (Upto III Class)	24 (4.80%)	41 (8.20%)
5	Upper Primary (Upto V Class)	30 (6.00%)	95 (19.00%)
6	Secondary	20 (4.00)	100 (20.00%)
7	Graduation	08 (1.6%)	21 (4.20%)
8	Post-graduation	-	-
9	Technical/Professional Education	-	1 (0.20%)
10	Father not alive	35 (7.00%)	60 (12.00%)
•	TOTAL	500 (100%)	500 (100%)

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Data on parents' education of drop-outs and regular children reveals that there is a clear and definite relationship between the level of father's educational status and drop-out behaviour of the child. Lower the level of education of father, higher is the drop-out rate. It is maximum (53.20%) when compared to illiterate fathers while it is very low (4.0%) among fathers who possess secondary education. However, it is difficult to conclude about a converse phenomenon, that is, the higher the level of education of the father higher is the regularity in the continuation of children in schooling process. The relationship between father's level of education and regular participation is not clear. While the chances of a child dropping out of school when the father is illiterate is 53.20%, the chances go up to 84.80% where mothers are illiterate. On the other hand the chances of a child attending the school regularly even when the father is illiterate is 18.60% while the chances in case of a mother is 78.20%.

However small the difference may be, the parents of the regular children score over the parents of drop-outs in terms of their level of education. The interpretation of data confirms that the educational level of father's/guardians' has a definite influence in the regular attendance of children. Mother's awareness and interest play a positive role in regular attendance. However, they have a common complaint that instead of going to school for a year their children are not able to even write the alphabets properly. Most of the mothers were aware of the importance of education for their children but on one condition that they have to work also either paid or house-hold due to economic necessities. It is also observed that the level of education of elder children also play a booster effect on the education of younger children.

Apart from the parental educational status, peer-group influence is a major reason for irregular attendance. The children in slums have to perform some household work as carrying water, looking after the younger brothers and sisters, cleaning vessels etc. These are also responsible for irregular attendance or ultimately dropping out from school. The work is imposed upon the slum children at the cost of their learning and play. The most common work is a helper in small wayside restaurants and teashops, while a large number work as vendors. Small industrial units also depend heavily on child labour. Many slum children work as porters, shoe shine boys and ragpickers. Parental apathy keeps children away from schools.

It is observed that the drop-out rate in slum area is highest at the Class I stage and it steadily decreases every year thereafter. Greatest care and attention is needed when the children are just enrolled and start studying. At this stage the learning programme should be made simple, meaningful, relevant, attractive and effective. As such if children can be attracted to attend their class regularly and remain till the end of the year at Class I stage then the chances of their completing the lower primary stage will be brighten.

The educational needs of slum children require special attention. Government is expected to take special care with both protective and promotive measures affecting different facts of their life. Facilities such as making toys, mats and assans etc. can be provided in the schools located in slum areas. This facility may be given to those children who attend school regularly and who are in need to supplement family income. In this connection the services of NGO's can be taken by school authorities. I believe that the scheme would attract more children to school and retain them in the system.

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An Analysis of the Teaching Learning Processes Followed in Ashram Schools of Orissa

B. K. Panda[1]

Introduction

The concept and objective of Ashram Schools are basically drawn from the Gurukulas which were traditional institutions of learning where the teacher and taught lived together and closely interacted. Ashram Schools in general are residential in nature and the inmates are provided with facilities of boarding and lodging. Creation of these type of schools especially for the tribal children can be traced from the past in 1922 when the noted social worker Thakkar Bapa influenced by the Gandhian Movement initiated the Ashram schools in Panchmahal Hills of Gujarat.

The research studies on Ashram Schools in Andhra Pradesh, Gujarat, Maharashtra, Rajasthan show that these schools are able to serve to some extent the objectives with which they were conceived. The establishment of Ashram Schools had increased the access to education particularly in interior and backward areas. The student performance in these schools is found to be better in terms of low dropout rate and less stagnation with high pass percentage. The vocational education part remained neglected in some states like Andhra Pradesh and Rajasthan compared to Gujarat and Maharashtra. These studies have highlighted some of the problems in management of these schools like lack of adequate accommodation, poor sanitation, problems related to teaching learning and administrative problems besides being these schools are costlier with a very high effective unit costs per student (Sujatha, K.;1990).

The Ashram schools in Orissa first started during the year 1949 in the form of Gurukulas with students and teachers living together in the same premises. Thereafter, it was decided by the Government of Orissa to establish Ashram Schools in the tribal areas with residential facilities in order to provide education to the chidren of the tribal people. These schools in the first instance established as residential middle schools generally opened in tribal concentrated areas and were known as Madhyamik Vidyalayas consisting of four classes i.e., from class IV to class VII. The admisssion into these schools were made from the neighbouring lower primary schools of Harijan And Tribal Welfare Department and other schools managed by the Education Department. However, preference is given to the children of the schools managed by the Welfare Department. The usual age limit for admission of children is between 6-14 years. In these schools, all the charges of education, clothing, boarding charges and medical expenses of boarders were borne by the government, besides they were also supplied with reading and writing materials, beds and utensils etc.

The state of Orissa has 70.3 lakh tribal population constituting nearly 22 percent which is a large segment of total population of the state. Ashram Schools are functioning in different districts serving a large tribal area. In Orissa there are 127 schools which includes both the Ashram Schools and Kanyashrams which caters to 13,555 boarders in the schools serving in 27 districts of the state. The location of the school as well as the number of boarders depend upon the population of the tribals in the various districts.

Although Ashram Schools are in vogue in Orissa since pre- independence period serving the tribal concentrated pockets, there are hardly any studies to throw light on planning, management, status and effectiveness of these schools in general and the teaching learning proceses followed in particular. Therefore, in the present paper an attempt was made to study the process of teaching learning taking place in these schools and to understand how far these schools which are provided with all the facilities are able to use effectively.

30 Ashram Schools located in various districts of Orissa were covered in the paper. The schools represented Boys, Girls and Co-educational schools; residential and non-residential schools.

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Teaching-Learning Processes followed in Ashram Schools

The education has remained as a new phenomenon for most of the tribals in the country even after five decades of independence. The tribal students being mostly first generation learners without any home support, their academic achievement and effectiveness of learning depends solely on the process of teaching-learning taking place in the schools. A large number of research studies on tribal education examined the functioning of schools and the ways in which they are organising the various activities in the schools. Some of the studies also tried to examine the existing facilities and availability of infrastructural facilities for schools, and attempted to study the quality of facilities particularly their condition, adequacy and relevance. These studies also examined the teacher variables like qualification and training, social background, residence, attitude of teachers towards tribal students and their behaviour.

There were also inter and intra school variations in organising the teaching-learning activities in the tribal schools (Panda, B.K.; 1996). The teachers do not prepare any teaching notes, time table and lesson plans for teaching the tribal children, moreover, the teachers serving in the tribal schools are not adequately made capable to undertake multigrade teaching and making use of remedial methods of teaching (Sujatha, K.; 1995).

In this paper an attempt has been made to study the various problems faced in the functioning of schools which relates to teaching-learning process etc., organisation of teaching-learning process is also one of the most important activities of the schools. The effectiveness of the school and its efficiency depends upon the proper and systematic organisation of the teaching activity, enabling the learners to conceive and understand what is exactly required. The classroom activity leads the learners to understand and imbibe the values of self- realisation, individual achievement, healthy competition, cooperation, conformity, creativeness and academic profeciency (Fantini; 1968).

Problems faced in carrying out Teaching-learning Process

	Lack of T-M	Inad. Books	Inad. T-Aid	Inad. Staff	Lack Teacher	Motivated Student	No Coord
Yes	40	50	45	55	50	60	-
No	60	30	55	25	40	25	90
NR	-	20	-	20	10	10	10
	100	100	100	100	100	100	100

NR : No Response

Problems faced in Carrying out Teaching-Learning Process

For carrying out the effective teaching-learning process in the schools, in addition to the provision of suitable physical facilities and adequate teaching-learning material, it is very much essential to have a coordinated effort by the school head with regular teacher meetings to discuss teacher deployment and assigning of classes with a conscious distribution of periods and planned time table for the school. The other factors like adequate teacher force, with motivation and adequate learning material definitely have impact on the learning process. On examining the situations of the sample schools, it was observed that 60 per cent of the schools did not have adequate teaching- learning material in the schools, more than 50% of schools did not possess adequate textbooks for the children whereas only 30% of the schools have reported to have adequate books for the teachers and to some extent the children have some books. Similarly, the teaching aids were found to be inadequate in 55% of the schools, and the remaining schools had teaching aids which were either very old or not used.

Additional Teaching-Learning Activities undertaken in the school

Teaching-Learning Activities	% of Schools following Always	Sometimes	Never
i. Providing additional information through school library	15	75	10
ii. Plenty of local information is suplemented with teaching	15	50	35
iii. Home work is given and checked	60	40	-
iv. In addition to class teaching, remedial teaching is carried out	10	80	10
v. Supervisory studies are carried out	30	70	-

Additional Teaching-Learning Activities followed in the Schools

Provision of additional teaching-learning activities particularly in the residential schools is very much essential, and the residential schools were envisaged with provision of such additional facilities for the students. The schools however followed different methods of conducting additional teaching- learning processes for the students. These methods ranged from remedial methods of teaching, assignments in the form of home work, providing additional learning material from the libraries, supervisory studies and supplementing the classroom teaching with local visits and local specific information supplemented with teaching.

From the school responses it was found that in majority, i.e., in 60% of the schools, assignments in the form of home work was always followed, whereas 40% of the schools sometimes followed this method.

It was also observed that the supervisory studies with the guidance of a teacher was carried out always in 30% of the schools, while only sometimes it was conducted in 70% of the schools.

The utilisation of library material and devicing learning methods through library was carried out only sometimes in majority of the schools (75%), while this method of utilising whatever library material present in the school was carried out always in 15% of the schools. Even the method of supplementing the lessons with local specific examples and illustrations were found to be followed always only in 15% of the schools, while 50% of the schools tried to follow this method sometimes, and 35% of the schools never followed the method of supplementing the teaching with local available information.

However, the method of organising remedial classes to the students was carried out during the year end when the examinations were to take place, it was observed that 80% of the schools sometimes followed this method, whereas 10% of schools were found to have followed always the method of remedial teaching.

Methods of Evaluating Student Performance

Organise class tests	Identify Weak learners	Through Annual exams weak learners identified	Other methods
A 80	35	30	85
S 10	40	10	15
N 10	25	60	-
100	100	100	100

A: Always S: Sometimes N: Never

Evaluation of Student Performance

The schools with primary sections do not have any system of examinations as they follow no detention system. The students were promoted from classes I-V without any terminal examinations. In the absence of the examinations, assessing the student performance was very much essential for understanding the individual weaknesses and strengths of students. On interviewing the school heads regarding student evaluation, it was observed that 80% of the schools had some kind of class tests which helped them in identifying the learners and their performances. Some of the schools (20%) could not conduct such tests in order to have an assessment of the student performance. Similarly, about 65% of the schools have been found without any methods of identifying weak learners and conduct any extra classes for them. Only 35% of the schools followed certain methods of identifying weak learners in various classes and conduct some extra classes for them. It was further observed that, there were only 30% of schools which followed some kind of annual tests or year end terminal exams for observing the performance of the children in various classes.

However, this situation varied in the schools which had higher classes (classes from V to X). The higher classes had annual examinations as well as subject-wise class tests which provided them information regarding the performance in individual subjects, accordingly, attention was taken in providing extra classes and special classes before the beginning of the annual examinations. It was also observed that majority of schools in the absence of class tests could only identify the weak learners from the results of the annual examinations.

Methods of Caring Failed Students

Retained until they pass	Cannot be retained above 2 yrs	Failed students are removed	Extra coaching is provided	Any other
Y 75	50	25	50	1. extra coaching done
N 20	45	70	45	2. I-VI no detention
NR 5	5	5	5	3. follow up for dropout
100	100	100	100	

Y: Yes; N: No; NR: No Response

Methods followed to attend the failed Students

Even though the question of detaining the students in primary classes did not arise due to non-detention policy upto class V, the Ashram Schools in majority did not have any specific strategies for dealing with such students. However, in the higher classes, a failed student was retained in the same class till he/she qualified in the exam. At the primary stage, it was observed that the weak children were not identified and special coaching and additional efforts were not made to improve such children. It was also observed in 25% of the schools the children dropped out of the school after failure.

Regarding the conduct of extra-coaching it was found that there existed some kind of coaching classes in the schools. These schools in majority were from the middle and higher sections and not from the schools having primary sections. 50% of school heads stated that they conducted extra classes and coaching for weak learners as a pre-examination preparation. But such classes were not conducted on regular basis in order to improve the performance of the slow learners.

It was also observed that a few school heads tried to persue the dropout children to continue their studies and extra coaching was provided to them for improving their studies.

Measures taken to handle Classes during Shortage of Teachers

Combined Classes conducted	Teachers share classes	Some Activity is assigned	Crafts classes conducted	Monitor based classes	Multi class teaching
Y 50	90	30	20	10	35
N 30	5	50	65	75	50
NR 20	5	20	15	15	15
100	100	100	100	100	100

Y: Yes; N: No; NR: No Response

Methods of Conducting classes during Shortage of Teachers

The shortage of teachers is a major problem in general. 50% of schools which were covered in the study had the problem of teacher shortage, while the remaining schools had full strength of teachers, the problem of election duties and other unprecedented leaves were no exceptions for these schools. In such situations it was essential for the heads of the schools to organise the classes with some kind of learning activity.

It was observed that 50% of schools conducted the classes by combining them while in more them 90% of the schools it was observed that the teachers instead of following various methods of handling classes managed the classes by readjusting their leisure time. However, the assigning of certain activities in the absence of teachers was not followed in majority of the schools, whereas this method may enable in providing some subject based activity in the form of class-room assignment and can act as a test to understand the class-room performance of a student. The organising of crafts classes was also followed in 20% of the schools. The method of conducting monitor based classes was not felt to be an effective means in majority of the schools, it was observed that 90% of schools did not follow this method.

Another most popular method of organising multi-class teaching methods were found to be followed in a very small number of schools. One of the main reasons which may be attributed is that the teachers responded that they could get little training on the latest teaching methods, in the absence of proper training it was not possible for them to practise new methods of teaching. Thus it will be observed that only 35% of the schools covered in the study had followed certain methods of multi- teaching, whereas, the rest of the schools did not follow any such methods.

In the absence of such alternative methods of handling the classes in the absence of teachers definetely can have affect on the school. The classes might be remaining without teachers and the systematic and continuous teaching-learning process simultaneously must be getting affected.

Frequency of School Inspection

6 months	1 year	2 years	Irregularly	Total
70 %	20%	5%	5%	100%

Frequency of School Inspection

The school inspection is one of the most important activities in the schools unlike other non-residential schools, the system of inspection is very much essential in these schools. It was observed that the inspection relating to school records, hostel records and other administrative aspects were inspected by the concerned officers. The frequency of such inspections depended from 6 months to 2 years, and there were cases of irregular inspection in some schools. There were 70% of school which have reported that the school inspection was carried out in six months and 20% of the schools were found to be inspected every year and only a small number of schools (5%) were found to be inspected once in 2 years.

The inspection was carried out mainly to ensure that there is more enrolment in the schools and suggestions were made to improve retention. The other items which were inspected related to the proper fund utilisation and the information recorded in the various registers.

The inspection helped the school heads to maintain the records and other information systems properly. The schools with hostels are required to be maintained systematically, as this involves regular procurement of food supply and other material to be supplied free of cost to the children.

Suggestions received from Inspection

Academic Improvement			Improvement of School Infrastructure			Improvement of Hostel & Mess etc.			Improve enrolment & reduce dropout of children		
A	S	N	A	S	N	A	S	N	A	S	N
50	40	10	20	70	10	50	30	20	75	20	5

A : Always ; S: Sometimes ; N: Never

Suggested improvements from Inspection

The school heads reported that the suggestions which were received from inspection were mostly relating to improvement of school enrolment and reducing the dropouts of children, sometimes relating to academic improvement and mostly relating to improvement and management of hostel and mess. The suggestions regarding improvement of school infrastructure also received attention to some extent.

The inspecting officers were much particular about the administrative aspects. The suggestions on improving and properly managing the hostel and mess figured in the reports always in 50% of the schools, whereas 75% of the schools have been suggested to take necessary steps for improving the enrolment and dropout of children, and the suggestion for improvement of school infrastructure was only made always for 20% of the schools and sometimes in 70% of the schools, because there were no adequate funds available for improving school infrastructure. The suggestions regarding improving results and other academic inputs was made always in 50% of the schools and sometimes in 40% of the schools, the suggestions were very general in nature and not specific to any subject teaching, planning of teaching and evaluating students.

Conclusion

There is a commonness in the findings among various studies on ashram schools, that these schools are ill equipped and lacked adequate facilities. A large number of studies have also revealed that the schools did not have good blackboards and teaching aids, even the chalk is not supplied regularly. The studies showed that large number of teachers are non-tribals and did not have any training to teach tribal children as well as to work in the tribal areas. The teachers lacked appropriate skills to teach effectively. Many of the studies highlighted the deficiencies of teacher training, curriculum to train suitably the teachers working in the tribal areas, and the classroom activities (are like any other school) are monotonous and teacher-centered. It was also found that though the teachers recognised the fact that the tribal children are slow learners in the initial stages, hardly any special attention is paid to the tribal children. Moreover, the teachers do not organise any remedial classes to make the tribal children to cope with the school curriculum (Haimendorf; Leuva; Sujatha,K; Yathiraj Kumar). A study which was carried out in the recent past on student achievement, showed that the schools located in tribal areas have never developed any institutional plans and moreover the planning of time-table and other activities varied considerably (Govinda, R. & Verghese, N.V; 1994).

The Ashram Schools even though were multi teacher schools, it was found that only few teachers adopted remedial measures while majority followed the routine methods. Although the teachers felt it is difficult to teach tribal children, hardly any attempt was made to adopt any alternative instructional methods for tackling specific learning problems of the tribal children. The schools by and large didnot have any alternative instructional methods for overcoming such learning problems of the tribal children, similarly these schools do not have relevant teaching aids for effective teaching, and if at all some science kits and OBB kits were available they were not fully utilised. The teachers were not exposed to regular trainings and the academic inspection has remained inadequate. The heads of ashram schools as well as

the teachers felt that they couldn't receive the latest training in order to cope up with the changing curriculum and teaching methods. A study on tribal schools conducted by Sujatha K; 1994 also came out with similar suggestions where the teachers felt that there should be more frequent visits by inspecting officers but for purposes of more academic guidance and to keep them motivated.

The major issues which emerge out of the observations from the paper were that the schools are unable to provide attractive environments better than the existing home environment of the tribal children which could have acted as an incentive of attraction and replaced their home, thereby the enrolment as well as retention in the schools would have increased considerably. The schools inspite their residential nature, didnot have proper facilities in terms of accommodation, school-campus environment, proper hygiene and sports facilities etc. In the absence of such recreational and extra-curricular activities it is not possible to achieve proper physical development of students.

The teaching-learning activities were highly monotonous. The children who were mostly first-generation learners for the first time in their life and for the first time in their generation were getting acquainted to the system of schooling, and gradually getting adjusted to a new pattern of life. This takes some time for these children to assimilate the different life pattern, and in such a situation, it becomes the prime duty of the school and the teachers to gradually initiate such children into the alien system of schooling which the children can gradually absorb and internalise in due course of time. This entire process needs very careful and efficient dealing. Attraction should be created in teaching process and learning ways, this will enable to retain majority of the children in the schools. By making the curriculum relevent and flexible while sustantiating with local specific subjects the learning can become more easier. Even by taking into account of the socio- cultural backgrounds of tribal communities the schools can reduce their distances from these communities and establish closer linkages. The crafts education also required to be conducted in these schools, this activity is very much liked by majority of the children in the Ashram Schools, but it was observed that the craft education is gradually diminishing from the schools. Similarly, the sports material were also reported to be inadequate, sports are the most important activities particularly for the tribal children, and majority of them are very good at sports.

Thus it will be observed that most of the important activities which could have helped in weaning the children away from home were not available in the schools The absence of attractive, different and interesting atmosphere in the schools has failed to retain and bring many tribal children to the schools, and the inadequate facilities have not helped in development the personality and outlook of the children to a great extent.

The residential nature of the school was envisaged with a view to reduce the distance between the teacher and the student in the pattern of the old gurukulas. In case of these ashram schools also, the teachers and the students resided in the same school campus. Inspite of their staying in the same campus, and instead of reducing their distances and becoming more closer by understanding each other closely and dropping their inhibitions, the tribal children remained aloof. Due to their aloofness they were sometimes branded by the teachers as dullards, but no special care is taken to encourage these children to become more active and mixing, this would have enabled the children to develop more confidence. The children due to lack of confidence, try to avoid the teachers and never dare to ask any questions in the classrooms. The teachers who were working in these schools had only the basic teacher training from the teacher training institute which they possessed at the time of recruitment, but after joining the Ashram Schools very few of them could get an opportunity to undergo some training, however, the systematic and regular training is completely absent in these schools. In the absence of intermittent training and training with regard to tribal culture and traditions, the teachers developed the skills of dealing the children in their own ways, this has resulted in inter and intra variations in teaching the children in the schools. The latest methods in the teaching and child-centered education etc. were not followed in these schools. The teachers developed their own methods of understanding and dealing with the tribal children and conducted the classes. The differences in the culture of a teacher and the children has created a gap. Moreover, the schools were not able to develop as bases for community activities by organising some of the cultural activities either in the form of dances, festivals etc. in the ashram schools.

The heads of schools and the teacher force conducted the school regularly without a proper school plan, infact it will be observed that the process of developing school plan (institutional plan) etc. for the schools was not found in any of the schools. The inspection reports mostly focused on proper maintainance of records, registers, funds and hostel mess etc. the inspecting authorities have never

touched the academic aspects of the school and could not plan for training the teacher force. They however emphasised on enrolment and reducing school dropouts.

It will be observed from the responses of the schools covered in the paper that the ashram schools needs to be made more attractive by overhauling the existing pattern of their organisation and improve their functioning. This will include the total improvement in the school organisation covering the school management, hostel management, managing of teaching- learning process and managing the community interest etc. The provision of regular teacher training and improvement in the resource allocation and flow in right time with adequate facilities in terms of infrastructure, school building and teaching-learning material can make the school more attractive. Mothods of adopting flexible curriculum, local specific curriculum and providing local vocations etc. can improve the retention of children in the school by simultaneously catering to the needs of the tribal communities, thereby making the ashram schools more attractive.

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Gender Disparity Persists in Literacy in India

N Nagarajan[1]

Introduction

Literacy and education are indicators of the development of a society. Many studies have shown that investment in education yield the highest rate of return and have a significant impact on the quality of life of the people. After attaining independence, India has devoted pointed attention to the objective of achieving universal literacy through the effective implementation of the Five Year Plans. Significant progress has been made in this direction through the different educational programmes. The target of Universal Literacy is however, still far from being accomplished. Gender disparity in education and literacy is an historical phenomenon and can be attributed to several economic, social and cultural compulsions.

Women's education has been of interest for several decades and this has been reflected in the reports of various Commissions. The various international conferences on women held at Copenhagen, Nairobi and the recently concluded Beijing conference have sharply brought to focus the gender issues. In recent years, momentum has been gathering all over the world, demanding gender equality and push for equal representation of women in all spheres of activity including education, political, cultural and economic. Inspite of conscious and repeated policy proclamations in India, female participation in education and literacy is very low.

There have been many special drives in respect of literacy promotion like Farmer's Functional Literacy Programme, Nairobi Adult Education Programme, Mass Programme of Functional Literacy, Total Literacy Campaign of the National Literacy Mission, Operation Black Board etc., all giving emphasis to women as the priority group among others As a result of these efforts, the literacy rates have progressed over a period. Between 1961 and 1991 the male literacy rate rose from 34.4 to 63.9 percent and the female literacy rate from 12.9 to 39.4 percent. In addition, 1991 was characterised by the fact that for the first time, the number of literate persons exceeded the number of illiterate persons. However, in 1981-1991 the actual number of illiterates became higher by 22 million. The number of illiterate females was around 200 million compared with 130 million male illiterates.

There has been a continuous progress in Total Male and Female literacy rates in the previous decades. It can be seen that though male and female literacy rates have increased over the period, there has been an undesirable continuance of gender disparity.

An attempt has been made to highlight the situation of gender disparity at states and Union Territories (UTs) level of India by analysing in detail the total, male and female literacy rates of rural, urban and all areas in 1991. It also intends to provide an insight into the correlation between the ranks of literacy rates and gender disparity. The analysis is based on the literacy rates calculated for the population aged 7 years and above in India.

Gender Disparity - All areas

Table : 1 (Annexure pg. 242) reveals that the female literacy rates in all the states and UTs are less than male literacy rates which are higher than the total literacy rates. Kerala occupies the first rank in total male and female literacy rates. The states of Rajasthan and Bihar take the last two ranks in female literacy.

The gender disparity (G.D) of Mizoram (7.0) and Kerala (7.4%) were the lowest. The states of Rajasthan (34.6%) and Uttar Pradesh (30.4) were having the highest gender disparity.

Rank correlation between literacy rates and gender disparity have been studied by using the following formula

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$$r = 1 - \frac{6d^2}{n(n^2-1)}$$

Where 'r' denotes Spearmans rank correlation, 'd' denotes the difference between the ranks of two variables and 'n' denotes the number of pairs.

The Rank Correlation studied for Table-1 are given below :

	Variables	Rank Correlation (r)
1.	TLR and MLR	0.962
2.	TLR and FLR	0.987
3.	MLR and FLR	0.922
4.	TLR and G.D.	-0.329
5.	MLR and G.D.	-0.295
6.	FLR and G.D.	-0.647

It is clear from the above correlation coefficients that there exists high positive correlation between Total Literacy Rate (TLR) and Male Literacy Rate (MLR) and Female Literacy Rate (FLR) and also MLR and FLR. But negative correlations were found between TLR, MLR, FLR and G.D.

Though the MLR in all the states and UTs are higher than FLR, any increase in FLR at present has more positive effect on reducing the gap between male and female literacy rates.

There are 16 states and 6 UTs with their literacy rates above national literacy rate of 52.2%. 15 states and 6 UTs with their male literacy rate (64.1%) and 17 states and 6 UTs with their female literacy rates above the National Female literacy rate (39.3%). While only 5 states 6 UTs have their female literacy rate above the state level (52.2%), all the states and UTs except Arunachal Pradesh (51.5) have their male literacy rate above national level.

Gender Disparity - Rural Areas

Table - 2 pg. 243 presents the states and UTs wise rural literacy rates and gender disparity. It shows what all the states and UTs are having rural male literacy rate above the national total rural literacy rate. But the number of states and UTs with their rural male literacy rates higher than the national rural male literacy rate (57.9%) are 17 and 6 respectively. Similarly there are only 5 states and 5 UTs having rural female literacy rates above the national total rural literacy rate (44.7%).

Kerala takes the first rank in total and female rates of rural areas while Rajasthan occupies the last rank in total and female rural literacy rates. There are 7 states and one UT with their rural total. 6 States and one UT with their rural male and 6 states and one UT with their rural female literacy rates less than the national rural total, male and female rate of 44.7%, 57.9%, and 30.6% respectively.

The gender disparity in rural literacy is least in Kerala (7.8) and Meghalaya (7.7) and the highest in Rajasthan (36.0%). There are 7 states and one UT having higher rural gender disparity than the state rural gender disparity (27.3).

The Rank correlation studied for the table-2 are given below.

	Variables	Rank Correlation (r)
1.	TLR and MLR	0.947
2.	TLR and FLR	0.969
3.	MLR and FLR	0.887
4.	TLR and G.D.	-0.244
5.	MLR and G.D.	-0.268
6.	FLR and G.D.	-0.487

The Rank Correlations between rural literacy rates and gender disparity shows the existence of positive correlation between literacy rates. There were negative correlation between GD, TLR, MLR and FLR.

Gender Disparity - Urban Areas

Table - 3 pg. 244 reveals that Mizoram (93.5) and Kerala (92.3) occupies the first and second ranks in urban total male and female literacy while Uttar Pradesh takes the last rank in urban total male and female literacy rates. All the states and UTs except Uttar Pradesh have urban male literacy higher than the national urban literacy rate (73.1%)

The number of states and UTs with their urban male and female literacy rates above the corresponding literacy rates of state level is 25 and 22 respectively.

The range in urban gender disparity in literacy rates of states and UTs is 25.7 (28.3 - 3.6). The number of states and UTs with their urban gender disparity in literacy below that of the national urban gender disparity of 17.0 is 21

Rajasthan ranks first in the highest urban gender disparity (28.3) followed by Manipur (25.4) and Madhya Pradesh (22.4). The least gender disparity in urban literacy is in Mizoram (3.6) followed by Kerala (6.5).

The rank correlations studied for the table No. 3 are given below :

	Variables	Rank Correlations (r)
1.	TLR and MLR	0.890
2.	TLR and FLR	0.976
3.	MLR and FLR	0.840
4.	TLR and G.D.	-0.527
5.	MLR and G.D.	-0.471
6.	FLR and G.D.	-0.848

The Rank Correlation studied for the Table - 3 reveal the existence of positive correlation between urban literacy rates. But in the case of total literacy rate (TLR) and Gender Disparity (G.D.) MLR and G.D., FLR and G.D., the rank correlation found was negative.

Gender Disparity in Literacy during 1981 - 1991

Gender disparity in literacy in India is slightly narrowed down from 26.6 in 1981 to 24.8 in 1991 (Table.4). There is no change in gender disparity in rural areas whereas in urban areas the gender disparity in literacy is narrowed down from 20.5 in 1981 to 17.0 in 1991.

The gender disparity is increased in states of Andhra Pradesh, Arunachal Pradesh and Rajasthan, whereas in states of Madhya Pradesh, Punjab and Uttar Pradesh the gender disparity in literacy is same during 1981 and 1991. All the other states and UTs have shown a decreasing trend in gender disparity in literacy.

In the rural areas of the states of Andhra Pradesh, Arunachal Pradesh, Madhya Pradesh, Rajasthan, Uttar Pradesh and Dadra & Nagar Haveli (UT) the gender disparity in literacy is increased during 1981 and 1991.

In the urban areas of the states & UTs there is a remarkable trend in decreasing gender disparity in literacy during 1981 - 1991.

Gender Disparity Compared - Rural, Urban and all Areas

A glance at Tables 1, 2, 3 and 4 would reveal that the gender disparity is the highest in Rajasthan. Mizoram and Kerala have the least gender disparity in rural, urban and all areas.

The number of states and UTs with their gender disparity higher than the national gender disparity of 24.8 is 7

There are 6 states and one UT with their rural gender disparity higher than the state rural gender disparity of 27.3 whereas 8 states and 2 UTs have their urban gender disparity of 17.0.

The range of gender disparity of states and UTs in rural areas is 28.3 which is higher than that of all areas (27.6) and urban areas (24.7).

The gender disparity in literacy in India is slightly narrowed during 1981-91. But there is no change in the gender disparity in rural areas.

Findings and Conclusions

The findings in brief are given below :

1. The male literacy rates in rural urban and all areas are higher than the corresponding female literacy rates.
2. The gender disparity is more accute in rural areas as compared to urban areas.
3. The number of states and UTs with their male literacy rate above the state literacy rate is more than the number of states and UTs with their female literacy rates above the state literacy rate.
4. There are 19 states and one UT with their female literacy rates below the national literacy rate, while only one state has its male literacy rate below the state literacy rate.
5. The gender disparity in literacy in India is decreased during 1981-1991. But there is no change in rural areas.
6. The gender disparity is increased in Andhra Pradesh, Arunachal Pradesh and Rajasthan during 1981-91. The gender disparity in Madhya Pradesh , Punjab and Uttar Pradesh remain the same during 1981-91.
7. The urban areas of all the states and UTs have shown a positive trend of narrowing down the gender disparity in literacy.
8. The rank order correlation between literacy rates and gender disparity reveals that the present literacy situation is moving in favour of females.

Conclusion

Though there is gender inequity in literacy by many a measure, still there are positive signs that has emerged in favour of gender equity in literacy.

Any development programme designed for women should therefore, be closely integrated with education and income generating propositions so that women development becomes self- sustaining and self-supportive movements.

Any educational programme both formal and non-formal to be designed for mobilising skill training and channeling rural women into action will result in enhancing the local capacity of economic growths which will help in the expansion of economic activity. The planners, adminstrators, implementors involved in literacy and education programmes must pay greater attention to the present movement of Education for All with a view to link economic growth by quickening the process of bridging the gap between the literacy and education of male and female in rural and urban areas among others.

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Annexure

Table 1 : Sex-wise literacy rates and Gender disparity of States (all areas) in 1991.

States & Uts	Total	Male	Female	Disparity
Andhra Pradesh	44.1(25)	55.1(24)	32.7(25)	23.4(11)
Arunachal Pradesh	41.6(26)	51.5(29)	29.7(26)	21.8(15)
Assam	52.9(24)	61.9(21)	43.0(22)	18.9(19)
Bihar	38.5(30)	52.5(28)	22.9(29)	29.6(3)
Goa	75.5(5)	83.6(4)	67.1(5)	16.5(22)
Gujarat	61.3(14)	73.1(12)	48.6(16)	24.5(8)
Haryana	55.9(21)	69.1(15)	40.5(23)	28.4(5)
Himachal Pradesh	68.9(11)	75.4(10)	52.1(12)	23.3(12)
Karnataka	56.0(20)	67.3(18)	44.3(21)	23.0(12)
Kerala	89.8(1)	93.6(1)	86.2(1)	7.4(24)
Madhya Pradesh	44.2(24)	58.4(22)	28.9(27)	29.5(4)
Maharashtra	64.9(10)	76.6(9)	52.3(11)	24.3(9)
Manipur	59.9(15)	71.6(13)	47.6(17)	24.0(10)
Meghalaya	49.1(23)	53.1(27)	44.9(20)	28.0(28)
Mizoram	82.3(2)	85.6(3)	78.6(2)	7.0(30)
Nagaland	61.7(13)	67.6(17)	54.8(10)	12.8(25)
Orissa	49.1(23)	63.1(20)	34.7(24)	28.4(6)
Punjab	58.5(17)	65.7(19)	50.4(14)	15.3(23)
Rajasthan	38.6(29)	85.0(25)	20.4(30)	34.6(1)
Sikkim	56.9(19)	65.7(19)	46.7(18)	19.0(10)
Tamil Nadu	62.7(12)	73.8(11)	51.3(12)	22.5(14)
Tripura	60.4(15)	70.6(14)	49.7(15)	20.9(17)
Uttar Pradesh	41.5(27)	55.7(23)	25.3(28)	30.4(2)
West Bengal	57.7(18)	67.8(16)	46.6(19)	21.2(16)
Andaman & Nicobar	73.0(8)	79.0(8)	65.5(8)	13.5(25)
Chandigarh	77.8(4)	82.0(7)	72.3(4)	9.7(27)
Dadra Nagar & Haveli	40.7(28)	53.6(26)	27.0(28)	26.6(7)
Daman Diu	71.2(9)	82.7(6)	59.4(9)	23.3(11)
Delhi	75.3(6)	82.0(7)	67.0(6)	15.0(23)
Lakshadeep	81.8(3)	90.2(2)	72.9(3)	17.3(21)
Pondycherry	74.7(4)	83.7(5)	65.6(7)	18.1(20)
India	52.2	64.1	39.3	24.8

Source : Census of India, Primay Census Abstract-General Population Part-II B(1) Volume-II

Table 2 : Sex-wise Rural Literacy Rates and Gender Disparity of States and UTs - 1991.

States & Uts	Total	Male	Female	Disparity
Andhra Pradesh	37.7(25)	47.3(29)	23.9(25)	23.4(17)
Arunachal Pradesh	37.0(26)	47.0(30)	25.3(25)	21.7(20)
Assam	49.3(21)	58.7(23)	39.2(18)	19.5(22)
Bihar	33.8(29)	48.3(27)	18.0(29)	30.3(5)
Goa	72.3(4)	81.7(3)	62.9(4)	18.8(23)
Gujarat	53.1(17)	66.8(14)	38.7(19)	28.1(9)
Haryana	49.9(20)	64.8(16)	32.5(23)	32.3(3)
Himachal Pradesh	61.9(8)	73.9(9)	49.8(9)	24.1(15)
Karnataka	47.7(22)	60.3(21)	34.8(22)	25.4(12)
Kerala	88.9(1)	92.9(1)	85.1(1)	7.8(29)
Madhya Pradesh	35.9(28)	51.0(25)	19.7(28)	31.3(4)
Maharashtra	55.5(14)	69.0(10)	41.0(7)	28.7(7)
Manipur	55.8(13)	67.6(11)	43.3(15)	24.3(14)
Meghalaya	41.1(24)	44.8(31)	37.1(21)	7.7(30)
Mizoram	72.5(3)	77.4(5)	67.0(3)	10.4(28)
Nagaland	57.2(11)	63.4(18)	50.4(8)	13.0(27)
Orissa	45.5(23)	60.2(22)	30.8(24)	29.2(6)
Punjab	52.8(18)	60.7(20)	43.9(14)	16.8(25)
Rajasthan	30.4(30)	47.6(28)	11.6(30)	36.0(1)
Sikkim	54.4(16)	63.5(17)	44.0(13)	19.5(22)
Tamil Nadu	54.6(15)	67.2(12)	41.8(16)	25.4(13)
Tripura	56.1(12)	67.1(13)	44.3(12)	22.8(18)
Uttar Pradesh	36.7(27)	52.1(24)	19.0(18)	33.1(2)
West Bengal	50.5(19)	62.1(19)	38.1(20)	24.0(16)
Andaman & Nicobar	69.7(5)	76.0(7)	62.0(5)	14.0(26)
Chandigarh	59.1(10)	65.7(15)	47.8(10)	17.9(24)
Dadra & Nagar Haveli	37.0(26)	50.0(26)	23.3(27)	26.7(10)
Daman Diu	61.6(9)	75.2(8)	46.7(11)	28.5(8)
Delhi	66.9(6)	75.5(4)	52.2(7)	26.3(11)
Lakshadeep	78.9(2)	88.7(2)	68.7(2)	20.0(21)
Pondycherry	65.4(7)	76.4(6)	54.0(6)	22.4(19)
India	44.7	57.9	30.6	27.3

Table 3 : Sex-Wise Urban literacy rates and Gender disparity of States and UTs 1981- 1991

States and UTs	Total	Male	Female	Disparity
Andhra Pradesh	66.4 (28)	75.9 (29)	56.4 (28)	19.5 (7)
Arunachal Pradesh	71.6 (24)	78.0 (28)	62.2 (24)	15.8 (14)
Assam	79.4 (13)	84.4 (17)	73.3 (12)	11.1 (23)
Bihar	67.9 (27)	77.7 (27)	55.9 (29)	21.8 (4)
Goa	80.1 (10)	86.3 (11)	73.4 (11)	12.9 (19)
Gujarat	76.5 (17)	84.6 (16)	67.7 (20)	16.9 (11)
Haryana	73.7 (21)	82.0 (21)	64.1 (23)	17.9 (10)
Himachal Pradesh	84.2 (3)	89.0 (5)	78.3 (4)	10.7 (24)
Karnataka	74.2 (20)	82.0 (21)	64.1 (23)	17.9 (10)
Kerala	92.3 (2)	95.6 (1)	89.1 (2)	6.5 (29)
Madhya Pradesh	70.8 (25)	81.3 (23)	58.9 (26)	22.4 (3)
Maharashtra	79.2 (14)	86.4 (9)	70.9 (15)	15.5 (16)
Manipur	70.5 (26)	82.1 (20)	58.7 (27)	25.4 (2)
Meghalaya	81.7 (8)	85.7 (14)	77.3 (5)	8.4 (27)
Mizoram	93.5 (1)	95.2 (2)	91.6 (1)	7.6 (30)
Nagaland	83.1 (5)	85.9 (13)	79.1 (3)	6.8 (28)
Orissa	72.0 (23)	81.2 (24)	61.2 (25)	20.0 (5)
Punjab	72.1 (22)	77.3 (28)	66.1 (21)	11.2 (22)
Rajasthan	65.3 (29)	78.5 (25)	50.2 (31)	28.3 (1)
Sikkim	80.9 (9)	85.2 (15)	74.9 (9)	10.3 (25)
Tamilnadu	78.0 (16)	86.1 (12)	69.6 (16)	16.5 (12)
Tripura	83.1 (5)	89.0 (5)	76.9 (6)	12.1 (20)
Uttar Pradesh	61.0 (3)	70.0 (3)	50.4 (30)	19.6 (6)
West Bengal	75.3 (19)	81.2 (23)	68.3 (19)	12.9 (19)
Andaman & Nicobar	81.7 (6)	86.6 (8)	75.1 (8)	11.5 (21)
Chandigarh	79.9 (11)	84.1 (18)	74.6 (10)	9.5 (26)
Dadra & Nagar Haveli	78.4 (15)	86.4 (9)	68.4 (18)	18.0 (9)
Daman & Diu	81.6 (7)	91.1 (4)	72.4 (13)	18.7 (8)
Delhi	76.2 (18)	82.4 (19)	68.5 (17)	13.9 (18)
Lakshadeep	84.0 (4)	91.3 (3)	76.1 (7)	15.2 (17)
Pondicherry	79.9 (11)	87.7 (7)	72.0 (14)	15.7 (15)
India	73.1	81.1	64.1	17.0

Exclude J & K : Where 1991 census was not held.

Table 4 : Gender Disparity in Literacy in 1981 - 1991

States & Citites	All Areas		Rural		Urban	
	1981	1991	1981	1991	1981	1991
Andhra Pradesh	22.7(20)	23.4(11)	20.0(20)	23.4(17)	23.9(7)	19.5(7)
Arunachal Pradesh	21.1(21)	21.8(15)	20.2(22)	21.7(20)	18.5(17)	15.8(14)
Assam	-	18.9(19)	-	19.5(22)	-	11.1(23)
Bihar	30.1(02)	20.5(03)	30.0(8)	30.3(5)	25.7(4)	21.8(4)
Goa	20.8(22)	16.5(22)	22.6(19)	18.8(23)	16.2(19)	12.9(19)
Gujarat	26.7(11)	24.5(8)	25.0(11)	28.1(9)	20.5(13)	16.9(11)
Haryana	31.6(1)	28.6(5)	34.6(1)	32.3(3)	20.3(14)	17.9(10)
Himachal Pradesh	26.6(12)	23.3(12)	27.1(14)	24.1(15)	13.6(23)	10.7(24)
Karnataka	25.2(15)	23.0(13)	27.3(13)	25.5(12)	20.1(15)	16.3(13)
Kerala	12.1(27)	7.4(29)	12.6(25)	7.8(29)	10.1(27)	6.5(29)
Madhya Pradesh	29.4(7)	29.5(4)	29.7(9)	31.3(4)	25.6(5)	22.4(3)
Maharashtra	28.6(8)	24.3(9)	32.2(3)	28.7(7)	19.0(16)	15.5(16)
Manipur	29.5(6)	24.0(10)	29.5(10)	24.3(14)	30.4(2)	25.4(2)
Meghalaya	9.7(29)	8.2(28)	8.6(27)	7.7(30)	10.8(26)	8.4(27)
Mizoram	10.8(28)	7.0(30)	12.0(26)	10.4(28)	16.4(18)	3.6(30)
Nagaland	18.2(23)	12.8(26)	18.2(23)	13.0(27)	9.7(28)	6.8(28)
Orissa	31.3(2)	28.4(6)	31.6(5)	29.2(6)	25.4(6)	20.0(5)
Punjab	15.9(26)	15.3(23)	16.9(24)	16.8(25)	12.7(25)	11.2(22)
Rajasthan	30.8(3)	34.6(1)	30.2(7)	36.0(1)	30.8(1)	28.3(1)
Sikkim	25.6(14)	19.0(18)	26.5(16)	19.5(22)	15.4(20)	10.3(25)
Tamilnadu	27.6(10)	22.5(14)	30.3(6)	25.4(13)	21.5(11)	16.5(12)
Tripura	23.5(19)	20.9(17)	24.7(17)	22.8(18)	14.3(22)	12.1(20)
Uttar Pradesh	30.3(4)	30.4(2)	31.7(4)	33.1(2)	22.1(8)	19.6(6)
West Bengal	23.9(18)	21.2(16)	26.0(16)	24.0(16)	14.8(21)	12.9(19)
Andaman & Nicobar	17.1(24)	13.5(25)	18.2(23)	14.0(26)	12.9(24)	11.5(21)
Chandigarh	9.6(30)	9.7(27)	20.5(21)	17.9(24)	9.1(29)	9.5(25)
Dadra&Nagar Haveli	24.3(16)	26.6(7)	24.2(18)	26.7(10)	21.8(10)	18.0(9)
Daman & Diu	27.9(9)	23.3(12)	31.7(4)	28.5(8)	22.0(9)	18.7(8)
Delhi	16.7(25)	15.0(24)	33.4(2)	26.3(11)	15.4(20)	13.9(18)
Lakshadeep	25.9(13)	17.3(21)	26.5(15)	20.0(21)	27.1(3)	15.2(17)
Pondichery	24.1(170	18.1(20)	27.6(12)	22.4(19)	21.0(12)	15.7(15)
India	26.6	24.8	27.9	27.3	20.5	17.0

Educating the Disadvantaged : A Case Study of Mahamana Malviya Vidyalaya Tapovan, Amravati. [M.S.] India.

A.V. Shukla[1]
S.B. Sadar[2]

The closing paragraph of a letter that Abraham Lincoln wrote to the Head Master of the school where his son studied goes as under, :

"Treat him gently but do not cuddle him because only the test of fire makes fine steel. Let him have the courage to be impatient, let him have the patience to be brave. Teach him always to have sublime faith in himself because then he will always have sublime faith in mankind."

These lines clearly bring forth the role of education and responsibilities of a teacher. The ideas assume much greater significance in the context of India, the world's largest democracy. In this country a lot needs to be done in the coming millennium in the area of education. The Directive Principles of the Constitution of India aim at universalisation of elementary education. As such what is to be done in the coming years would essentially require a deep introspection of what was done and achieved in the last fifty years It is here that such case studies will prove benefitial. While India is still far away from its goal of universalisation of primary education, more difficult is the task of providing opportunities of learning to certain disadvantaged sections of the society.

This case study tries to present an indepth study of Mahamana Malviya Vidyalaya, Tapovan, Amravati, India. This school was born out of the dire necessity of providing means of schooling to a section of children who were severely disadvantaged. These children came to be born to parents who were afflicted by leprosy and were ostracised from the society. The man behind the entire project, **Late Dr. Shivajirao Patwardhan** can rightly be called a beacon light in the onerous endeavour of providing educational facilities to the disadvantaged.

Shivajirao Patwardhan was born in a small village named Asangi in the erstwhile Jamkhandi state now in Karnatak on 28th December 1892 Having lost both his parents in early childhood young Shivaji was brought up by his elder sister Bainabi. It was through her that Shivajirao acquired the qualities of head and heart which were later on transformed this village lad into a towering personality. Having acquired a degree in Homeopathic medicine Dr. Patwardhan came to Amravati in 1924 to practice as a doctor. Soon his practice gained momentum and Dr. Patwardhan began to be respected as a successful doctor in the entire region now known as Vidarbha comprising of nine districts of Eastern Maharashtra.

While Dr. Patwardhan was gaining popularity as a doctor the entire nation was in the grip of independence struggle. Deep within his heart Dr. Patwardhan was also experiencing a surge of nationalists feelings. Soon Dr. Patwardhan plunged himself into the freedom movement. This brought him close to leaders of the stature of Subhash Chandra Bose and Dr. Rajendra Prasad. In fact Dr. Patwardhan was many times jailed during the freedom movement and also had to share his jail cell with Dr. Rajendra Prasad on a few occasions. However, Dr. Patwardhan had a deep inborn dislike for politics and soon after independence parted ways with the Congress. Inspite of having attained freedom, the country at that time was facing a number of hardships and Dr. Patwardhan found himself ill at ease while all round him he could see a suffering sea of humanity. His practice as doctor provided him with ample opportunity to watch human suffering at close quarters which greatly moved Dr. Patwardhan.

Leprosy was then a dreaded disease. Even a suspicion of the existence of leprosy led to the worst kind of ostracization and suffering. Leprosy patients in different stages of disease were left uncared and unattended. No one dared to even give them a glass of water let alone protection. While at one hand the germs of the disease ravaged the body, on the other the pangs of ostracization gnawed at the very core of its victims. Dr. Patwardhan decided to do something to provide treatment and sucour to these pitiable sufferers. As chance would have it, the illness of a son of a wealthy businessman of Amravati Lala Jugal

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Kishore, brought Dr. Patwardhan in his contact. Fortunately Dr. Patwardhan was soon able to cure Lalaji's son and gained Lalaji's admiration. When Dr. Patwardhan revealed his desire to work for the leprosy patients to Lalaji the philanthropist was kind enough to offer Dr. Patwardhan a piece of 80 acres of his land on the outskirts of the city to start his endeavours. It was 1946 and with the untiring efforts of Dr. Patwardhan the **Vidarbha Maharogi Seva Mandal** was born. It was primarily a training centre to train dedicated people in handling and treating leprosy patients. The prevailing outlook towards leprosy and towards its patients proved quite a stumbling block for Dr. Patwardhan. Even before we could start training people in fighting leprosy, Dr. Patwardhan had to assume the role of a social reformer and work hard against removing the prejudices in the attitude of people against leprosy -- the disease and against lepers--the patients. It was only in 1950 that the **Tapovan Kusth Dham** was established to provide leprosy patients not only the direly needed medical attention but also a place to live in after the crippling ostracisation from the society. The beginning was very modest but soon patients from far and wide started coming and their numbers grew in leaps and bounds. Along with the medical attention the patients at Tapovan got the loving affectionate attention of Dr. Patwardhan and his dedicated wife who had also by then immersed herself in the daunting tasks taken up by her illustrious husband. Both Dr. and Mrs. Patwardhan put in long hours of selfless service to the people who had until then only received scorn and ostracisation. The feeling of love and affection showered by them on these patients soon blossomed into familial ties between them. As the patients got cured the problem of non-acceptability in the society continued. Cured patients remained helpless. Dr. Patwardhan against set upon himself the endeavour to provide these unfortunate people with a respectful source of livelihood so as to make them economically independent. As a result the Tapovan saw the establishment of a Rehabilitation Centre comprising of a carpentry workshop and a couple of handlooms. Here the patients on the road to recovery got training in trades of weaving and carpentry as a vocation. Later on a press and powerlooms were also added to this centre. Today the **Rehabilitation Centre** through the sale of its products is a major source of funds for Tapovan. While the Tapovan Kusth Dham takes care of the bodily disease of leprosy. the Rehabilitation Centre takes care of the economic needs of the patients. Such was the respect commanded by Dr. Patwardhan that the Dham never experienced dearth of donations from well meaning Indian philanthropists. Dr. Patwardhan was also gripped with the problem of the leprosy patients in jails and the predicament of the Government in dealing with them. As a solution Dr. Patwardhan started an open jail for murder convicts who were lepers in 1958 at Tapovan.

Government recognition to the efforts of Dr. Patwardhan came in the form of aid to the Tapovan Centre and the title of Padamshree for Dr. Patwardhan. A strict disciplinarian and a stickler for punctuality Dr. Patwardhan disliked publicity and was even averse to being photographed. It required a lot of persuasion by none other than Dr. Rajendra Prasad before Dr. Patwardhan accepted the Padamshree. While earning for the well being of his inmates Dr. Patwardhan and his wife themselves made their lives a shining example of simplicity and selfless service. Tapovan, as mentioned earlier provided a place to live to the patients. These patients shifted to Tapovan along with their families consisting of 2 or three children of varying ages. While the patients were treated and given vocational training at Tapovan they as well as their families were shunned by the outside world. As a result the healthy children of the inmates of Tapovan were not given admission by any of the local school thereby depriving them of any chance of formal education. Dr. Patwardhan's attention was drawn towards the misfortune of these children whose childhood and future was to be doomed for no fault of theirs. The attitude of the society was so unrelenting that all efforts of Dr. Patwardhan to get these children admitted to schools in Amravati drew a blank. Left with no resource Dr.Patwardhan then took the momentous decision of starting teaching these children himself. So one fine morning in 1960 under shade of big tree started what is now known as Mahamana Malviya Vidyalaya. Dr. Patwardhan was the teacher and his pupils were all children of leprosy afflicted inmates. There was no building, no furniture, no blackboard and no books either. What was certainly there was the burning desire of Dr. Shivajirao Patwardhan to do something for the unfortunate children. Soon the school gained regularity and shape. Paucity of funds was a major hurdle in the way of progress. The school at the time depended entirely upon funds that could be spared from Tapovan. It was in 1966 that the school was recognised by the Government of Maharashtra. This brought in Government grants and soon the school could manage a small building for itself and other teaching aids alongwith a few teachers. The first teachers at the school were cured inmates who already had some formal education and

could thus take up teaching children. It is worth nothing that the Government of Maharashtra made special concession while granting recognition to the school. While rules require a minimum strength of 70 students per class this requirements was lowered to 30 students in case of this school. The other requirements, however, have remained the same as for other schools. In term of curriculum, teaching standards, staff recruitment and salaries, the school had to follow the Government rules. The initial difficulty of non-availability of teachers from outside was deftly handled by Dr. Patwardhan using all available resources within Tapovan. It was only in 1968 that the society had become broad minded enough and the first teacher from outside joined the school. The pupils however, still remained the children of inmates of Tapovan. As the number of students grew the number of classes also increased. It was in 1980 that a great turning point came in the history of the school. It maked a great change in the outlook of the society towards leprosy, towards Tapovan and towards the school. It was in 1980 that the school for the first time got students from outside Tapovan. It was the triumph of scientific temper over baseless social dogmas. It was a great personal triumph for Dr. Shivajirao Patwardhan. These students from outside belonged to the poor families residing in nearby villages. Going to school in the city was almost physically and financially impossible for these children. Thus the school yet again provided educational opportunity to the rural poor children.

Table (I) below presents in a succint way data tracing the progress of Mahamana Malviya Vidyalaya over the years :

Table 1

	Item	1962	1970	1980	1990	1997
i	Number of students	34	69	262	496	475
ii	Number of classes	04	06	09	12	12
iii	Number of teachers	03	10	12	17	18
iv	Number of teacher residing in Tapovan	03	08	08	06	04
v	Number of non-teaching staff	-	02	06	07	07
vi	Number of student from outside Tapovan	-	-	60	226	296

(Source : School records)

The first batch of students from the school passed out of Std. X (S.S.C.) in 1962. In all only 05 students appeared for the examination and all of them were successful.

Table (II) below presents data showing the performance of the students of this school at the S.S.C examinations :

Table 2

Years	Number of Students		
	Appeared	Passed	% of Result
1992	89	56	64.36
1993	91	66	72.36
1994	100	74	74.00
1995	79	49	62.20
1996	89	08	09.90

The school established its own library in 1970. This library has grown ever since. Science laboratories were established in 1980 and are now well equipped. Dr. Patwardhan was careful to see that no discrimination of any type was made between children of Tapovan inmates and those from outside. The school looks after all round development of it students. It has a well equipped playground and a full-time physical education instructor. Its teams always take part in inter-school sports competitions and have won many laurels at the same. Here it is noteworthy that the students of the school have never faced any

discremination from students of other schools at such meets. Social and cultural gathering are also organised in the school every year giving a chance to students to show and sharpen their extra-curricular skills. Parents Day is celebrated every year in the school. It is worth appreciating that many parents do not hesitate to attend these celebration on the campus. The school provides its students a chance to join either N.C.C. or Girl Guides or Boy Scouts and develop their personalities according to their aptitudes.

The school contingent in always invited to participate in the Independence and Republic Day celebrations at the district headquarters. Similarly the school has never experienced any difficulty in getting special invitees for its functions in the school.

The students passing out from the school have no difficulty in gaining admissions to any institute of their choice for further education. Many students of the school are today leading successful professional and personal lives in the society. In fact many of them have maintained their contact with the school by way of regular visits and also by admitting their children to the school. This shows that the social stigma so excruciatingly experienced by the school in its earlier days has defintely ebbed and the school through its pioneering and untiring efforts has been able to gain social acceptability for its students and staff. It would be however naive to believe that the school faces no hardships now. Even today the Tapovan and the school face a dilemma with regards to the future of orphaned girl students. There still exists a slight hesitancy in acceptance of these girl students in the normal stream in society. Time alone can, it is felt, change the society's outlook and grant social acceptability to these girls.

It is well known that the number of job opportunities available even to the well qualified are limited. Self employment is then the urgent need of the hour. It is therefore felt that the school needs to provide vocational training to its students. This can be done at the Rehabilitation Centre of the Tapovan. In this way these students can fight unemployment effectively even after getting formal degrees from universities, if need be.

Dr. Shivajirao Patwardhan passed away on the 7th of May 1986 but not before putting the work started by him at Tapovan on a firm footing. His life and work reminds one of the famous lines from the poet, H.W. Longfellow, :

"Lives of great men, all remind us,
We can make our lives sublime,
And departing leave behind us,
Footprints on the sands of time."

Female Literacy and Girls'Education at the Elementary Level An Historico - Comparative Study of the North Eastern States of India

Jayashree Roy Jalali[1]

Introduction

A major concern of "Education for All" is female illiteracy and poor enrolment, retention and achievement of girls at the elementary level. Though broadly speaking, a literate mother contributes substantially towards educating her children, especially the girl child, often historical, economic and sociological factors more than the household environment play a crucial role in either enhancing or retarding the growth of elementary education for girls. This is particularly so in the case of North Eastern States of India where despite the provision of schooling facilities and several human and material inputs, the benefits derived from them have been confined to only a few tribal and non-tribal groups leading to numerous inter and intra-state disparities.

In this paper, an attempt has been made to study the historical context of inter-tribal disparities in literacy, which have had their effects on girls' education at the elementary level. It points out the links between inter-tribal and inter-district disparities. Citing case studies it analyzes the causes for the non-participation of girls in elementary education and includes suggestions on planning and management strategies for the region.

The Regional Context

The North-Eastern states of India, comprising Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland and Tripura have a common historical tradition to which educational development is also linked. The development of literacy and elementary education has been a complex phenomenon emanating from both governmental policies and the growth of tribal languages as a result of missionary efforts. Despite the relative high male and female literacy percentages as compared to other Indian states, the region suffers from low participation of girls both at the primary and upper primary levels. The over-all completion rates of five years of schooling at the primary level show poor percentage for both boys and girls barring Mizoram (see tables1 + 2 for details).

The need to employ English educated natives in British administration favoured a policy of government intervention in the region along with donation of grants to Christian Missions. Thus the work of the Serampore Baptist Mission in Assam was continued by the American Baptist Mission among the Nagas, Khasis and Jaintias. This work was later extended to Mikir and Garo Hills.

Table 1 : Select Demographic Indicators

Sl. No.	State	Population	Density Population per sq. km.	% of rural Population	% of SC Population	% of ST Population	Population below poverty line %	% of main workers in total population	% of Literacy
		1991	1991	1991	1991	1991	1991	1991	1991
1.	Arunachal Pradesh	865	10	87.27	0.47	63.66	-	45.22	41.59
2.	Assam	22414	286	88.90	7 40	12.82	22.8	31.20	52.89
3.	Manipur	1837	82	72.46	2 02	34.41	29.2	31.20	52.89
4.	Meghalaya	1775	79	81.41	0.51	85 53	-	38.55	49.10
5.	Mizoram	690	33	53.91	0.10	94.75	-	40 32	82.37
6.	Nagaland	1210	73	82 80	-	87.70	-	42 09	61 65
7	Sikkim	406	57	90.89	5.93	22 36	-	40 45	56.94
8.	Tripura	2757	263	84.69	16 36	30.95	-	29.09	60.44
	India	846305	267	74.29	16.33	8.08	29.9	34.18	52.21

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Sources: Census of India, 1991.

The Presbyterians, therefore, moved to the Surma Valley. In the Mizo Hills, Mr. J.H. Lorrain and Mr. F.W. Savidge established the first centre at Aizawl. These missionaries soon translated the native tribal languages of the Lushai, Garo, Khasi, Ao, Angami, Sema and Lotha into Roman script and henceforth both literacy and elementary education became a part of preaching Chistianity.

Table 2 : Elementary Education

Sl. No.	State	Completion Rates of Five Years of School I (in %) 1991-92 Primary Level	
		Boys	Girls
1.	Arunachal Pradesh	84.90	33.55
2.	Assam	-	-
3.	Manipur	62.42	55.11
4.	Meghalaya	29.23	19.27
5.	Mizoram	67.13	64.22
6.	Nagaland	-	-
7.	Sikkim	32.59	30.44
8.	Tripura	44.41	44.88
	India	63.45	43.88

Source: NIEPA, Indicators of School Education, unpublished Draft Report, 1994.

Boarding schools were next established, and by 1950s several Mizo girls had passed out of nursing schools. The Presbyterian ethos was to impart work-oriented education even at the elementary stage. This practical side of education was extended to the education of the elementary teachers, especially in the Teachers Training Schools such as the Basic Teachers Training Institute at Aizawl. The courses on practical or vocational training as a compulsory part of the elementary schools were invariably related to the traditional tribal economic activities and exists even today in Teacher's Training Colleges.

Though in Manipur (Ukrul district), Meghalaya, Nagaland and Mizoram missionary activities along with the help of government schools made the tribal children (including girls) proceed to a higher achievement at the elementary level, the situation was different in Assam, Arunachal Pradesh and Tripura.

One major factor behind the low achievement of girls at this level and hence the inter-district disparity in the states of Arunachal Pradesh, Assam, Tripura and also parts of Manipur is the multi-lingual composition of the population of the districts of these states. Whereas, Assamese, Boro, Chakma, Meitei, Tripuri had developed their scripts with languages being imparted in mother tongue in the primary schools for both tribal and non-tribal children. For the majority of the tribes of Arunachal Pradesh, and some tribes of Nagaland this development did not take place and hence Naga districts like Mon, Tuensang and Phek lacked in the development of both literacy and elementary education. In Arunachal Pradesh despite the introduction of both English and Hindi, as mediums of instructions, the Kameng districts are still at a comparatively lower level of achievement.

In Arunachal Pradesh the districts near Pashighat and those inhabited by the Buddhists near Bomdila and across the north eastern belt of the state have a higher level of literacy, and this coupled with governmental intervention in the last decade has elevated the literacy level in districts such as Lohit, Dibang valley and West Siang. The geographical location and physical proximity to Itanagar, the state capital has helped lower Subansiri.

Literacy and the Tribal Dimension

Several research studies have indicated the close relationship between low female literacy and its adverse effect on girls' education for the elementary sector (Nayar, 1991). However, the dropout rates for girls are not necessarily based on any gender bias in this region. On the contrary, except for some patriarchical and patrilineal tribes, such as the Lushais and some Naga tribes, there is no gender bias against girls' education. The matriarchical tribes such as the Khasis, Garos and Jaintias attach importance to female education. Even in the so-called patrilineal tribes such as the Lushais of Mizoram, female education is attached utmost importance since it is believed that an educated mother or daughter will be of economic and social asset to the family. Both in Manipur and in Mizoram females participate in the workforce at all levels and the expansion of the service sector in Mizoram has enhanced the demand for female education.

The characteristics of economic classification of the female population in 1991 indicate that in all the North Eastern states the percentage of female population to the total population was above 46 percent, though literacy varies from 29.69 percent (Arunachal Pradesh) to 78.60 per cent (Mizoram). The literacy performance of Nagaland (54.75%) is also better than the all India average. Barring Assam and Tripura, most of the females work as cultivators in this region. This is despite the high literacy percentages in Mizoram and Nagaland. The reasons being that there is practically no industry in these states and hence cultivation and agriculture are the main occupations of the women folk. Women also participate in high percentages, as marginal workers, in part-time jobs. In Manipur, women are largely employed in households and industries (see table 3).

Economic classification of the population as was available in 1991 indicates that where the female literacy was high such as in Mizoram (78.60%), the completion rates for girls for the first five years of schooling was also as high as 64.22 percent (1991-92).

Table 3 : Economic Classification of Population 1991

States	Literacy in %	Population of Female	Main workers	Cultivators	Agriculture Labourers	House hold Ind. manuf. proc. serv. repairs	Other than house hold Ind.	Marginal Workers
Arunachal Pradesh	T-41.59 F-29.69	864558 46.21%	390976 36.34%	235987 50.45%	20054 36.27%	742 28.44%	9725 9.50%	8806 87.31%
Assam	T-52.89 F-43.03	22414322 47.99%	6992056 19.33%	3559117 19.34%	844964 19.22%	61455 47.71%	217661 6.35%	1096879 88.67%
Manipur	T-59 89 F-47 60	1837149 48 92%	708283 41.43%	437499 44.39%	47350 59.55%	41089 85.34%	16344 31 05%	66621 85.05%
Meghalaya	T-49 10 F-44.85	1774778 48.86%	715587 37.16%	395804 42.35%	89492 41..69%	2885 43 36%	12509 10.04%	41735 88.39%
Mizoram	T-82 27 F-78.60	689756 47.95%	290317 38.68%	178101 46.73%	9527 35 12%	2958 32.49%	4605 16.55%	47028 67.32%
Nagaland	T-61.65 F-54 75	1209546 46 98%	511497 41 46%	371597 51.84%	7233 29.36%	1991 54.99%	6767 9.37%	4740 77.26%
Tripura	T-60.44 F-49.65	2757205 48.57%	802063 16 93%	305523 16.68%	187538 22.10%	11384 30.31%	28243 9.16%	56454 86.01%

T = Total F = Female

Sources: Census of India 1991

Inter-District Disparity - A Reflection of Tribal Groupings

Inter-district disparities reveal pockets of backwardness which are common in states like Arunachal Pradesh and Nagaland. This is because of the same tribal population living in both these states. For example, both Tirap district of Arunachal Pradesh and Tuensang district of Nagaland have remained backward as both are inhabited by the same tribal groups such as the Mishmi, Monpa, Nocte, Singhpo, Tangsa, Wancho and Yobin of Arunachal Pradesh living across the state boundary. Both in 1981 and in 1991 the female literacy percentage of Mon district of Nagaland remained low that is 12.35 (1981) and 29.10 (1991), Mon being inhabited by the Konyak tribe.

In Arunachal Pradesh, apart from Tirap valley,East Kameng remained lowest in female literacy during this decade (2.88 in 1981 and 14.02 in 1991). This district being inhabited by educationally backward tribes such as Kooa, Khamba, Miji, Monpa Sherdukpen, Sulun, Tangsa and Aka none of whom have developed literacy primers.

In Assam, the Darrang district though not the lowest in female literacy (32.53 in 1991) had over 10 percent tribal population consisting of the Boro, Kacheri, Deori, Hojai, including Sonwal, Lalung, Mech, Miri and Rabha, out of which only Boro and Kacheri have attempted to develop literacy primars and impart teaching in mother tongue at the lower primary stage.

Meghalaya, though educationally a forward state, had in the sixties one of the lowest female literacy percentages in the decade 1981-91 in West Garo Hills. This is despite the development of Garo language almost a century ago. The factors for the low participation of women and girls may be explained by factors such as irrelevant curriculum, unattractive school building and other reasons which will be discussed through case studies. West Garo Hills had as poor a female literacy percentage as 31.32 in 1991 fairing better than 19.50 percent in 1981. In the West Garo Hills district the sub tribes such as the Kuki, Mon, Mikir, Mizo and Naga have problems of integrating with the Garo population and have remained aloof from the formal education system.

In Manipur female literacy was low in districts such as Manipur North (20.20 percent), Manipur West (26.06) and Tengnoupal (25.16) in 1981. Once again the causes of low literacy in these districts may be attributed to the lack of primars to impart literacy in mother tongue to the tribal sub groups inhabiting these districts. These groups being Aimol, Anal, Chothe and Chiru (Manipur North); Gangte, Hmar, Kabui, Kacha Naga (Manipur West); and Simte, Thadou, Vaipei and Zou Tengnoupal. Other tribes like the Angami and Thangkuls have their own prime. Even in 1991 Manipur was left with five low female literacy districts inhabited by tribes as mentioned above.

In 1991, South Tripura had as low as 39.75 percent female literacy inhabited mostly by Riang, Santal, Tripuri and Uchai tribes. It may be mentioned here that Mizoram's pockets of low literacy are in the areas the Brus, Riangs and Chakmas inhabited by, right across the western and eastern borders of Aizawl, Lunglei and Chhimtuipui districts.

State and Districtwise Position of Female Literacy and Enrolment of Girls

There are many discrepencies between the ranking of female literacy and girls' enrolment in Arunachal Pradesh. Though in 1986, East Kameng district had a female literacy rate of only 2.88 (the lowest in the state) the ratio of girls enrolled in the age group of 6-11 years was 27.00 and for 11-14 years 10.13. This is despite 55.04 percemt of the population being served by primary schools/sections within a distance of 1 km. and 23.03 percent by upper primary schools/sections within the distance of 3 kms. Lower Subansiri with only 10.01 percent female literacy rate had a more positive effect on the participation of girls for the elementary level (48.00 ratio for 6-11 years and 32.23 ratio for 11-14 years).

No census was conducted for Assam for 1981, however, the low enrolment of girls for the elementary stage were in the districts of Karbi Anglong (36.31 for 6-11 years and 38.27 for 11-14 years) in 1986. This was despite 97.15 percent of primary schools were available within 1 km. and 86.58 percent of upper primary schools within 3 km.

In Manipur the enrolment ratio for girls of both age groups was as low as 56.29 for ages 6-11 years and 30.31 for ages 11-14 years in Senapati district which had 94.5 percent of its population served by a primary section within the habitation and 66.35 percent of upper primary section within 3 kms. within the habitation.

In Meghalaya, West Garo Hills district which had only 19.55 percent female literacy rate in 1981 had an enrolment ratio of as high as 51.06 for girls belonging to 6-11 years and 72.39 for the age group of 11-14 years. The provision of schooling facilities for both primary and upper primary levels was not enough. For example only 82.39 percent habitations have schooling facilities upto 1 km. for the primary level and 67.06 percent upto 3 km. for the upper primary level in West Garo Hills district.

The overall female literacy and participation of girls for the elementary level is more satisfactory in Mizoram as compared to any other North Eastern State. However, Chhimtuipui needs more attention as only 19.42 percent of its population was served with primary schools within their habitation and 69.42 percent with upper primary schools at a distance of 3 km. The measure for the success of Mizoram may

be attributed to factors such as the expansion of the service sector since 1987 thereby giving ample opportunity to the educated Mizo to get government jobs and do away with the domination of the "Vais" (Outsiders). Also to the process of decentralizing primary and elementary education by the State government by which the Autonomous District Councils aquired the freedom to design local-specific curriculum in tribal languages for their ethnic minorities such as Lai, Mara and Chakma and freedom to plan and administer elementary education according to the requirements of ethnic minorities.

In Nagaland, apart from Mon, Tuensang and Phek with low female literacy; the girls enrolment was especially low in Kohima (35.13 for years 6-11 and 31.37 for 11-14 years). In Tripura female literacy was hardly a criterion for girls' enrolment which is the highest among all North Eastern States (100.28 for 6-11 years and 42.63 for 11-14 years) even in the low female literacy district such as South Tripura.

Girls' Enrolment and Droputs from the Elementary Level

In general, the percentage of girls enrolled in the primary classes have increased from 1957 to 1993. The highest percentage increase of girls enrolled between the years 1957-1965 was in Manipur (255.80) followed by Tripura (152.42) and Assam (127.66) However, there is no such increase in girl' enrolment except for Tripura (77.32) between the years 1965 and 1973. In the period 1973-1978, Arunachal Pradesh witnessed the highest percentage of increase in girl' enrolment, that is 97.25. Manipur showed a decrease in girls enrolment for the same period (-.95). Arunachal Pradesh also continued with increase in the percentage of girls enrolled between 1978-86 (123.94), followed by Tripura (86.14). The gap between enrolment of girls and boys decreased between 1986-1993 in all the North Eastern States except Arunachal Pradesh.

Table 4 : Growth Rate on Enrolment at Primary Level Total and Girls in Percentage

States	% age of increase from 1957-1965	% age of increase from 1965-1973	% age of increase from 1973-1978	% age of increase from 1978 1986	% age of increase from 1986-1993
Arunchal Pradesh	N.A.	N.A.	63.90	78.16	42.52
Girls	N.A.	N.A.	97.25	123.94	53.29
Assam	68.77	17.79	20.84	29.09	11.56
Girls	127.66	25.44	25.14	44.24	16.47
Manipur	144.82	59.60	-14.21	-10.21	50.40
Girls	255.80	59.60	- 7.95	- 6.43	10.92
Mizoram	N.A.	N.A.	1.21	53.16	12.15
Girls	N.A.	N.A.	1.69	51.63	11.61
Nagaland	N.A.	N.A.	14.61	16.03	4.20
Girls	N.A.	N.A.	18.50	23.92	5.64
Tripura	130.65	63.70	6.71	73.84	13.96
Girls	152.42	77.32	9.95	86.14	16.97

Source : Calculated from All India Educational Surveys 1957-1993, NCERT, New Delhi.

At the middle school level, 1957-1965 a phenomenal increase of girls' enrolment was in Tripura (503.03%), Manipur (498.55%) and Assam (275.96%). Though Assam (82.38%) and Tripura (118.67%) maintains the increase in girls' enrolment for the years 1965-1973, in Manipur there is no substantial increase (30.04% girls out of total 34.91% increase in enrolment).

The years 1973-78 witnessed a substantial increase in the enrolment of girls in Arunachal Pradesh (268.43) though in other states of the region there was no sharp difference between this period and the previous years. Arunachal maintained the highest increase even in 1978-1986 and 1986-1993. There is a trend towards the increase in the growth rate of girls enrolled from 1973 to 1993 in all North Eastern States barring Arunachal Pradesh; hence, the gender-gap tends to decrease.

The dropout rates of girls in 1986 were nearly the same as that of total dropouts of middle schools in states such as Arunachal Pradesh, Meghalaya, Mizoram and Tripura (data on dropout rates for

primary schools was not available for the region for that year). Data pertaining to 1988-89 as supplied by the Ministry of HRD, Government of India for the elementary stage indicates the same trend in the primary schools thus there is no substaintial difference between the percentage of total dropouts to girl dropout in classes I-V. 1993 data, however, shows a marginal gap between the sexes with girl dropout rates being higher in all the states especially in Tripura (See Table 5 for details).

Although the girl, enrolment had increased substantially in Arunachal Pradesh and Manipur between 1986-1993, data on dropout of girls shows that the participation of the girl child was far from satisfactory at the primary stage. The situation gets worse at the middle school stage where more than 70 percent of the girl students drop out of formal schools.

Table 5 : Growth Rate in Middle School Enrolment Total and Girls in Percentage

States	% of increase from 1957-1965	% of increase from 1965-1973	% of increase from 1973-1978	% of increase from 1978 1986	% of increase from 1986-1993
Arunchal Pradesh	N A.	N.A.	161.54	157.24	85.80
Girls	N.A.	N.A.	268.43	238.84	97.25
Assam	127.47	51.90	19.53	48.75	27.14
Girls	275.96	82.38	24.64	56.21	37.85
Manipur	177.37	34.91	17.23	36.40	53.18
Girls	498.55	30.04	40.27	41.00	65.58
Mizoram	N.A.	N.A.	10.89	36.48	40.80
Girls	N.A.	N.A.	13.74	45.27	39.50
Nagaland	N.A.	N.A.	30.05	11.75	52.32
Girls	N.A.	N.A.	39.61	15.93	67.84
Tripura	292.34	71.11	18.30	12.04	11.16
Girls	503.03	111.67	19 89	122.06	17.90

Source : All India Educational Surveys 1957-1993, NCERT, New Delhi.

Table 6 : North Eastern States : Enrolment and Dropout Rates at Primary Schools 1986, 1993

States	Years	Enrolment		Dropout Rates	
		Total	Girls	Total	Girls
Arunachal Pradesh	1986	88029	-	-	-
	1993	125462	54420	60.05	61.09
Assam	1986	2627634	-	-	-
	1993	2931511	1331949	39.05	39.55
Manipur	1986	179834	-	-	-
	1993	270476	127133	68.26	68.53
Meghalaya	1986	251502	-	-	-
	1993	278119	138761	32.06	34.43
Mizoram	1986	104044	-	-	-
	1993	116686	55319	57.58	58.58
Nagaland	1986	126812	-	-	-
	1993	132142	63448	37.65	24.13
Tripura	1986	364769	-	-	-
	1993	415690	190077	63.49	66.95

Source : All India Educational Survey, NCERT, New Delhi, 1986.

Case Studies

In Manipur, inspite of the incentives and programmes taken up for development of girls' education, there exists a wide gap between the education of boys and girls in all stages. The most serious problems are low enrolment, wastage and stagnation. These may be due to poverty and ignorance on the part of the parents. Girls are engaged in domestic and different occupational works of their parents. Apart from this there still remains a prejudice against the girls' education, even if the parents are not poor. Even in 1996 the rural folk did not favour educuation of the girl. Social factors such as early marriage and parental apathy for girls' education also proved to be the causes of wastage and stagnation.

In most Muslim and even Meitei (Vaishnav) dominated areas there is a demand for separate schools for girls after the primary stage. In Thoubal district though there existed a government co-educational school for the middle level within the walking distance, both the muslim men and women expressed their concern over co-education as it was against their cultural norms. The other factors affecting girls' participation in elementary education were lack of female teachers in rural areas; insurgency movement and hence lack of security and poor hostel and transport facilities in villages situated at a distance from Imphal, the state capital.

Table 7 : North Eastern States : Enrolment and Dropout Rates at Middle Schools 1986, 1993

States	Years	Enrolment		Dropout Rates	
		Total	Girls	Total	Girls
Arunachal Pradesh	1986	17284	-	79.19	79.15
	1993	32114	13027	68.72	67.62
Assam	1986	761848	-	68.09	70.96
	1993	968639	429752	67.55	71.80
Manipur	1986	68467	-	75.40	77.89
	1993	104878	48566	72.34	72.26
Meghalaya	1986	64435	-	40.54	40.82
	1993	73546	19558	52.44	50.60
Mizoram	1986	28659	-	40.54	40.82
	1993	40354	19558	52.44	50.60
Nagaland	1986	28769	-	60.10	56.82
	1993	43882	21158	38.13	39.58
Tripura	1986	28769	-	66.17	65.50
	1993	43882	54209	68.39	70.92

Source : All India Educational Surveys, NCERT, New Delhi, 1986.

In Meghalaya, the dropout rate is the highest in classes I & II. The physical facilities are poor in rural primary schools. Most schools had only one room, insufficient drinking water and no separate toilet for girls. This is even at Barapani which belongs to East Khasi Hills, a district with high literacy and higher enrolment of girls. In a household survey, parents explained at length the socio-economic constraints faced by them in sending their children to these schools. One major factor was the school hours which clashed with the harvesting time, and for which the parents need their children's help. Secondly, there hardly existed the non-formal centres and even if they did they were often without Instructors. There was also practically no ECCE centres for the parents to leave their young children, hence the daughters remained at home looking after the siblings. Their suggestion was to open more non-formal centres especially for girls.

In Tripura, inspite of the provision of schooling facilities and incentives; 19.4% of ST girls were outside the formal schooling system in Jirania block of West Tripura District. This case study reveals that both poverty and illiterate parents, expecially mothers were causes of low enrolment. Interviews held with parents, Panchayat members and field workers indicated that formal school time-table clashed with

harvesting season. The school curriculum was also irrelevant. Both Meghalaya and Tripura case studies reveal the need to develop local specific curriculum which is being tried out today in the Lai Autonomous District Council of Mizoram State.

In constrast to these studies, another study reveals formal schools were more in demand in Arunachal Pradesh. But the unqualified tribal primary teachers adversely affect the performance of these students, especially in remote areas. The lack of training to teach from the NCERT textbooks at the middle school is a common constraint faced by most North Eastern states and hence more teacher training courses need to be conducted. At Phesema, Kohima District of Nagaland (Jalali, NIEPA; 1990) it was pointed out once again that there was a need to impart teacher training. The lack of physical facilities within the government schools made the parents send their children to privately managed primary and middle schools often situated three kilometres away from home and taking as long as two hours to walk each way. This was despite the active community participation by the Angami parents to build huts and school equipment in the government schools.

However, in several case studies conducted both at Ukhrul, Churachandpur districts of Manipur, Nagaland and Mizoram it was revealed that where Chistians constituted the ST population, the dropout rates of girls was not significant. In addition the lack of housing facilities for women teachers, and an acute shortage of female teachers in both primary and middle school in all these states affect both enrolment and retention of girls. Studies conducted by Shilo Ao and Sangtam years, reveal that if teachers have to wait at length to travel to their block headquarters to collect their salaries, often after three months they usually prefer to be posted out or refuse to join school in remote areas. Moreover, often the Inspector of Schools has no vehicle to travel for inspection of schools. Even the policy of posting a couple together in schools, as has been tried out in Arunachal Pradesh and Nagaland, has not provided the required incentive.

Conclusion

In view of the factors which have emerged from this paper, a few planning and management strategies are suggested to encourage female literacy and development of girls' education in this region. These are :

1. Convergence of ECCE, Non-Formal and primary schools through a network of school complexes;
2. Utilisation of VEC and ensuring community participation for building infrastructural facilities and the link with literacy and elementary education through a campaign approach especially for girls;
3. Developing the administrative blocks in a holistic way that would require the integration of health, education, child nutrition and other development programmes, thereby building up the economic facilities within each block along with sharing of inter-departmental resource to ensure a better pariticipation;
4. Emphasis on local-level planning and autonomy to blocks and villages to develop education plans through micro-level planning;
5. Increasing the Teacher-Training component either through existing DIETs both for pre-service and in-service students which would also involve building up the existing poor infrastructural facilities in DIETs of the region;
6. Linking DIETs with locally situated degree colleges for quality improvement of teaching in languages, social sciences, sciences and mathematics;
7. Introduction of work-oriented courses for the elementary level which would make curriculum more relevant to rural needs;
8. Flexible time-tables and mobile schools for shifting population and more residential schools for rural children;
9. Better housing facility for rural teachers, especially females; and
10. Developing a MIS to be monitored by each state for collection of data.

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Gender Sensitivity and Barriers in Education - An Overview

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Introduction

The belief that women are inferior goes back a long way : "the female is female by virtue of a certain lack of qualities" declared Aristotle The political and economic status of the male and female are organized by different requirements and constraints These when socialized produce relationships of power of production and of reproduction, thus constituting an immense cultural system comprising masculine and feminine In this paper an effort is made by the authors to examine the various levels at which this unbridgeable divide of man/women, masculine/feminine, functions

Throughout the ages and through diverse cultures women's status has depended on the biological fact that she is potentially the bearer of children The social organization depends on a division of labour and roles in society are assigned according to the physical distribution of sex, age and kinship. Anthropological and historical evidence indicates that the criteria for division of labour between the sexes (and hence the role of the female) is arbitrary, based on local customs and traditions rather than on physical and mental capacities For instance, woman's lesser strength and slighter build has not exempted her from being a carrier of burdens, from heavy agricultural labour and other physically strenuous exertions. The arbitrary and often irrational assignment of roles serves to accentuate almost from the moment of birth the bipolarity of the sexes Men and women conform to social laws because from early infancy they have been taught the ways of their society and its standards have become their own. In this way physiological differences between the sexes are sustained and kept alive by the social order and institutionalized by mores and traditions The simpler the community the more difficult it is to break its laws.

The concepts of masculinity and femininity exist mainly in the realm of abstract ideas. Society attributed sharply contrasting qualities to men and women in order to keep the ideas of bipolarity intact. Rationality came to be associated with men, and sentimentality with women, men's thinking was said to be logical, women's dismissed as intuitive When men worked on intuition it was admired as the necessary accompaniment or starting point of scientific discovery and invention Subordination of the feminine to the masculine became the necessary condition for the functioning of the social machine

The differences between the sexes - some biological and others man made - have inevitably resulted in psychic consequences "Anatomy is destiny" declared Sigmund Freud in 1933. He found woman to be the imperfect man and blamed the 'fatality' of the feminine situation on her anatomical defectiveness

Several psychometric tests devised to measure masculinity and femininity have shown that they are matters of degree rather than of contrasting traits at two opposite poles "M-F" scales designed to measure the degree of "maleness" and "femaleness" have in the last analysis exhibited a bias inherent in their very nature Qualities such as mechanical ability and interest in engineering have been placed on the masculine end whereas dependence, desire for security and aesthetic interests have been placed towards the feminine end of the scale The relativity of these generalized standards is seen in the fact that engineering - one of the most unequivocally masculine interests in the United States - was found to be very popular among women in the erstwhile USSR

We find therefore that what is only an index of the relative distribution between men and women of certain qualities has thus become the criterion of masculine and feminine Biologists and geneticists have found that human beings are ambisexual for both men and women possess male and female sex hormones though in different proportions What Virginia Woolf wrote in *A Room of One's Own* about creative writers may well be applied to men and women in general "for anyone who writes it is fatal to be a man or women pure and simple, one must be womanly manly or man womanly"

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Status of Women Down the Ages In ancient civilizations women were worshipped as mother goddesses and personifications of the principle of creation of life, of rebirth of nature after the death of winter, and of the hope of resurrection of man himself. Their standing received a major setback with the spreading influence of the Greek and Roman Empires. Women in these countries were treated little better than child-bearing slaves. Christianity did not help matters. Although blessed with a soul equal to man's, woman was regarded as the temptress responsible for the downfall of Adam. Witch hunts were a common feature and thousands of women were burnt at the stake in Europe. The advent of the Renaissance saw a revival of learning but women were advised to keep their knowledge a secret for fear they be considered unfeminine.

The first essay to explicitly talk of equality for women was Condorcet's "The Admission of Women to Full Citizenship" (1790) written during the intellectual and social ferment of the French Revolution. Mary Wollstonecraft's *Vindication of the Rights of Women* appeared in England in 1792 but was too far ahead of its time to have much impact. That position was reserved for John Stuart Mill's *Subjection of Women* published almost a century later in 1869. It has since been elevated to the rank of a feminist manifesto.

The Industrial Revolution of Europe in the 19th century brought significant changes in the status of women. The transfer of production from home to factory for increasing productivity destroyed the family unit. Thousands of men, women and children left their homes to work as 'sweated labour' and to dwell in appalling conditions in city slums. At the same time, the rapidly prospering middle class began to put a premium on the idleness of women. Apart from child bearing and presiding over a well-run household, the bourgeois woman's main function was to be an ornament to society. Chastity or a sense of propriety were supposed to be her highest virtues. The aim of education, proclaimed Ruskin, was right living, right thinking and the acquisition of good taste.

The period of colonial expansion in the 19th century saw many men emigrating overseas. Scarcity of eligible young men made the fate of unmarriageable surplus women a topic of serious discussion. Specialized education and training among girls became the necessary means for earning a livelihood. Consequently the number of girls' colleges went up significantly. In spite of this, women were not admitted to the great English Universities till well into the 20th century. Famous women's colleges like Girton (1869) and Newnham (1871) did not become part of Cambridge University till 1948. In the United States matters were somewhat different. Special women's colleges opened as early as the 1830s and many universities began admitting women on a co-educational basis in the 1860s. By 1900 the proportion of co-educational institutions of higher education in the West was about 70%.

In India the story has not been very heartening. The Education Commission of 1882 judged the status of women's education as "extremely backward". The World War and the Independence Movement set the stage for an educational change and the All India Women's Conference, founded in 1927, encouraged the active participation in education, political and social reforms. The percentage of educated women however remained small and in the 1932 Review of the Indian Girl and Her Education, J M Kumarappa could castigate girls for pursuing male oriented studies and becoming 'mannish'. He advocated a special syllabus for girls which would include subjects like cookery, laundry work, infant and child care, cleaning and needle craft. Besides customs like dowry, purdah system, early marriage, pressure of household duties the fact that girls make up a very high proportion of the unpaid family worker, have acted as obstacles to education. The subsequent alienation an educated girls faces in society has been another deterring factor. In 1882 at the college level in arts and in professional colleges, there were only 35 women in a student body of 10,538.

The ratio of literate women in India, which was only 6 per thousand in 1901, has now became almost 400 per thousand as is evident from the table given below

Table 1 **Percentage of Literate Women in India**

Year	1901	1911	1921	1931	1941	1951	1961	1971	1981	1991
% of literacy among females	0.6	1.1	1.8	2.9	7.3	7.9	13.0	18.7	24.8	39.4

Women & Education : The Contemporary Scene

Changing family patterns and the acquisition of franchise have been greatly instrumental in bringing about radical changes in women's status all over the world. But it is education which has a direct bearing on the social position of women. Since the mid 19th century, education of women has expanded not only in the western developed countries, but also in undeveloped or underdeveloped countries of Asia and Africa. The United Nations through UNESCO and the Commission on the Status of Women has taken the initiative in this direction and actively formulated the rights of women to education through the United Nations Charter (1945) and the Universal Declaration of Human Rights (1948) The declaration proclaims that all are entitled to free education; that elementary education shall be compulsory, that technical and professional training shall be available equally to all whose ability merits it Here again women face serious problems for the ground work for technical education is laid at the primary level, not only is about half the world's population still illiterate but women lag far behind men in literacy due to social, economic and related factors. In the second half of the 20th century a developed country like USA has about 2.9% illiterate women. The figures for France are 3.8%; Hungary 5.4%, India 60.7%, Turkey 83.3%; Iraq 95.8% and Algeria 98.2%.

Continuous efforts are being made world wide to eradicate illiteracy among women not only in developed countries but also in developing and underdeveloped countries. The SAARC group of nations has declared 1991-2000, the Decade of the Girl Child UNICEF published a pamphlet 'Investing in Girls' and in 1990 its executive board took it up as a priority issue. In 1989 the United Nations General Assembly adopted the convention on the Rights of the Child. Article 2 of the document which came into force in 1990 and which was ratified by 165 countries, declares that every child, boy and girl, has equal right to survival, protection and development. Other declarations and commitments undertaken to advance the education of girls include the resolution adopted in Nairobi in 1985, in the World Summit for Children in 1990 and in the African Charter of 1990.

The wastage of women's potentialities begins at the base In India in the early 1960s only 27 of 100 girls - compared with 39 of 100 boys - entering school reached the 4th class. Table-2 shows that the position is till far from satisfactory.

Table 2 : **Dropout rates for Boys and Girls**

(Provisional) Year	Class I - V		Class I - VIII		Class I - X	
	Boys (%)	Girls (%)	Boys (%)	Girls (%)	Boys (%)	Girls (%)
1980-81	56.2	62.5	68.0	79.4	79.3	86.6
1985-86	45.8	50.3	60.7	70.0	73.9	83.2
1990-91	40.1	46.0	59.1	65.1	67.2	76.9
1993-94	36.0	39.0	49.9	56.8	68.4	74.5

Thus, out of every 100 girls enrolled in class I, only 61 reach class VI, only 43 reach class IX and only 25 reach class XI Though there has been a substantive reduction in dropout rates of girls since Independence, we have still not reached a position where we can feel complacent. The position throughout the world is similar. In 1980, the percentage of female enrolment in secondary schools was only 41% (87% for more developed countries and 29% for less developed countries). It is now only 50% (95% for more developed countries and 42% for less developed countries). The position of girls in higher education is, however, a little better than primary/secondary education, as is evident from Tables 3 & 4.

Table 3 : **Women Students per hundred Men Students**

Year	Total Women Enrolment	Enrolment per hundred Men
1950-51	40,000	14
1994-95	20,65,000	51

Table 4 : Stage wise Percentage of Women Enrolment to Total Enrolment

Year	Graduate	Postgraduate	Research	Diploma/Certificate
1985-86	29.5	31.2	31.0	24.4
1994-95	33.6	35.6	38.5	26.4

Though there has been tremendous increase in girls enrolment in India since Independence, the situation, if compared with other countries of the world, is not very encouraging. In the 1980s, there were 28% girls and 32% boys enrolled in most developed countries, whereas the figures in India were only 5% girls and 13% boys.

Again the faculty-wise distribution of enrolment of women in higher education shows a large number of women opting for the Arts (55%), followed by Sciences (20%), Commerce (14%), Education (4%), Engineering, Technology, Agriculture, etc., (7%). Compared to this less men were in Arts (33.4%), about the same number in Sciences (19 4%) and Education (4%), more in Commerce (26%), and in Engineering, Technology, Agriculture, etc , about 17%. Even in the Open University system in India, out of about 5 lakh students, 70% are boys and 30% girls.

The 'apartheid of gender' is thus very much alive and kicking. Even in advanced countries like Britain and Scandinavia where education is subsidized by grants and loans, parents will, in case of debt or financial constraints send their sons rather than their daughters to the universities. According to an official British report, about one half of the boys and only one third of the girls capable of higher studies stay at school after the age of 16.

Social pressures exerted: (a) partly by traditions and public opinion, (b) partly by the operation of market forces, (c) partly by the older established professions (like medicine, law and theology), have limited the professional and therefore the educational choices of women. The rationale for denying girls equal access to university education is usually because (a) she is not likely to become the breadwinner of her family; (b) her future socio-economic status will probably depend not on her professional occupation but on that of her husband; and (c) her career will presumably be only of short duration sacrificed at the altar of child bearing and housekeeping, not warranting therefore the investment of time, money, energy.

Women Today : Today the state of affairs is gradually improving and in countries like the United States, Britain, France, West Germany and Scandinavia there is a strong correlation between the educational level of women and their unemployment. Irrespective of her husband's social status and income the more highly educated the woman, the more strongly motivated she is to continue in or return to her career. Also, instead of impairing a girl's marital prospects a degree has proved to be an asset in the marriage market. Since universities are places where young women are likely to meet eligible young men, many parents today see a college education as a better investment than dowry. Education in both developed and developing countries has immense prestige attached to it and husbands are proud to have a wife with university qualifications or professional training.

Although much has been achieved, much still remains to be done. Significant inroads have been made in fields as diverse as aviation and academics, policies and entrepreneurship, yet, all around the world and especially in developing countries the statistics are truly horrifying. Girls are aborted or killed as infants and the surviving few grow up in an atmosphere of neglect and abuse. Of the 100 million children world wide between the ages of 6 and 11 who do not attend school, 70% are girls. Of the one billion illiterate adults an estimated two third are women. Under these circumstances the importance of education for women cannot be over emphasized. It is the first but essential step towards rehabilitating, restoring and equalizing the power balances for women who for centuries have been forced to be submissive and docile to whimsical and irrational laws of patriarchal authority. Traditional behavioral patterns today are in a state of flux all over the world. We, in India, have to emerge from the old system of rigid social stratification and become part of a new order in which social status is based on personal achievement. The stringent criteria of age, sex, family membership, must of necessity, lose their weight in determining a person's place and her treatment in society. The need of the times is greater freedom for

women and her assessment on personal merit - or, in the words immortalized in the Constitution of India, "prohibition of discrimination on grounds of religion, race, caste, sex or place of birth".

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Higher Education for Women
A Case Study of the American College, Madurai

C. Muthuraja[1]

Introduction

The role of women in a society is very important. The society cannot prosper without making women educated and empowered. All of us are aware that women's education is the key to a better life in the future. Our Father of the Nation Mahatma Gandhiji has rightly remarked that, "educating a boy is the education of an individual but educating a girl is the education of the whole family." The role of women in a community is the most important one and no nation can afford to ignore it.

It is widely believed that women's education leads to :

a) Greater participation of women in the labour market;
b) Reduction in family size;
c) Greater attention by mothers to the care of their children in the terms of health, character building and education at accomplishment; and
c) Greater per capital income and better quality of human capital.

Educating women can return more profit than any other investment in developing nations, said World Bank Chief Economist Lawrence H Summers. In addition to the financial benefit educating women can reduce child mortality and fertility rates, cut the number of infant deaths, help prevent the spread of AIDS and improve the environment.

Demand for higher education among women is increasing because educated girls have more chances to get a better life partner. Moreover, educated boys do not want to marry uneducated girls anymore. Once educated, women do not want their accomplishments and talents to be wasted. This also means higher responsibilities because their traditional role as housewife and mother do not get diluted in the changed circumstances. In fact, they ably manage house and work and the extra load of responsibilities is carefully handled if others in the family also cooperate. It is in this view, that since independence the policy makers have argued for universal education and for making education a tool for bringing about social equality. Education is the most important instrument for human resource development. Particularly higher education, which is the main instrument for development and transformation. Higher Education Institutions can and should exercise a great influence on societal transformation and in industrial development of the nation.

Today the role of women has changed dramatically. A woman perceives herself to be a productive and constructive unit of national development. Hence the educational system must be geared to meet all the needs. The National Committee on Women's Education (1958) said that the problem of women's education is so vital and of such great national importance that it is absolutely necessary for the centre to assure responsibility for its rapid development. It suggested that the government should see that parity between the education of boys and girls is reached as early as possible and that education of girls is developed in all parts of the country. Also, in 1964 the Committee of Status of Women remarked that in the progressive society of tomorrow, life should be a joint venture of men and women. Men should share the responsibilities of home and women in turn should share the social and economic responsibilities of men.

Institutions of Higher Education for Women

There is an acute shortage of institutions of higher education for women in India. Presently, there are five women's universities in the country (SNDT Women's University, Mumbai; Mother Teresa Women's University, Kodaikanal; Banasthali Vidyapeeth, Rajasthan; Ainashilingam Institute of Home Science and Higher Education for Women , Coimbatore and Shri Padmavathi Mahila Vishwavidyalaya,

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Tirupati). However the past decades have witnessed a great increase in the number of women's colleges. There were 647 women colleges in 1982-83, which increased to 741 in 1985-85, 824 in 1988-89, 950 in 1991-92 and 1108 in 1994-95.

Enrolment of Women Students

In the post independence period, the number of women students in higher education has increased immensely. In 1950-51, the number was about 43 thousand which increased to 20.65 lakh in 1994-95. The percentage of female students to total students was nearly 12 in 1950-51 which increased to 33.80 in 1994-95. The faculty wise enrolment of women students shows that the proportion of women has been highest in the faculty of Education, followed by the faculties of aArts, Medicine and Science. Law, Veterinary Science and Agriculture have the smallest proportion. The women's enrollment to total enrolment is one third in our country. The meagreness of women's enrolment in India becomes clear in comparision to their higher enrolment rates in some developed countries such as Australia (62%), Sweden (90.2%), US (68%), France (49.8%), Finland (57.2%) and Denmark (53.91%).

Constraints in Women's Higher Education

It is seen today that in every field women are worse off than men; women have less power, less autonomy, more work, less money, and more responsibility sharing a small proportion of developmental benefits. There are a number of reasons which keep women students away from colleges; the important among these are :

a) Cost of education in relation to the poverty of families. 70% of women population in India work to earn money to support their families;
b) Social beliefs such as early marriage and a widespread belief in female seclusion which increase the demand for women's colleges and women teachers. In Indian society parents prepare their daughters for their role as a wife and mother, and have to be submissive to their husbands. This indicates a limited perception of the society towards women.
c) Discriminatory process at work within the college system itself. There are different customs and traditions present in Indian society. It is very difficult to make the ideal curriculum, which fulfills the needs of different people.
d) The perceptions of women's role in a traditional world, the negative attitude towards their education, gender bias, sex stereotyping and inhibitions on women's participations in non-traditional occupations. As a result women students who pursue courses in colleges and universities are mainly from urban middle and upper classes with a few from the higher socio-economic strata of rural areas.

Profile of the Study Area

The study covers the PG departments of the American College, Madurai. Madurai city is located on the bank of Vaigai river in southern Tamil Nadu in South India. This city is popularly known as Temple City because it has famous temples like Meenakshi Amman Temple, Thiruparankundram Temple, Alargar Kovil, etc. The college is located in north of the Vaigai river.

The college was affiliated to the Madras University until 1965-66 when it came under the present jurisdiction of the Madurai Kamaraj University, Madurai. PG Course in Chemistry, Zoology, Physics, Mathamatics, and Botany were started in July 1958, July 1958, July 1963, July 1983 and 1987, respectively. M.Phil courses in Physics and Zoology were started in July 1979 and 1987, respectively; M.A. in English Economics and Tamil were started in 1980, 1984, 1986, respectively. In 1990, Masters Degree courses in Commerce were started.

After a great deal of preparation spread over many years, the college sought and attained an autonomous status from the year 1978-79. This autonomy gives the college freedom in the matter of admissions, courses and curriculum and teaching and evaluation. It is a bold experiment in higher education recommended by the Education Commission (1964-66) in order to make higher education purposeful and relevant.

The American College was established in 1881 and at present there are 17 departments at the graelnate and 11 departments at the post graduate level engaged in promoting Higher Education in this area. In the last decade more than 40 per cent of women students have enrolled in the American College. They belong to the age group of 20-30 years. The following table on the next page 275 shows the number of the women students admitted in different departments. It proves that once the girls in certain areas are able to break through the barriers of prejudice, they proceed to acquire a further degree. Most of them are enrolled in the science stream only.

Conclusion

Though in Tamil Nadu state female literacy is around 40 per cent, the enrolment of women students in the American College is quite high which in turn proves that more and more girls are improving themselves through study. They are replacing their emotional and conventional nature by a more rational, scientific and egalitarian existence.

Women's Enrolment in Higher Education - India

Year	Total Enrolment	Women Enrolment	Women Enrolment as % of Total Enrolment
1950-51	306745	43126	10.90
1955-56	712697	91893	12.90
1960-61	1049864	170455	16.20
1965-66	1728773	355476	20.60
1970-71	3112404	689086	22.10
1975-76	2426109	595162	24.50
1980-81	2752437	748525	27.20
1985-86	3570897	1058612	29.60
1994-95	6113929	2064982	33.80

Source : University Grants Commission, Annual Report 1980-81, 1985-86 and 1994-95.

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Educating Refugees : The Role of Distance Education

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Education holds the key to human and societal progress. History has proved again and again how education leads to peace and attainment, whereas its denial causes conflict and suffering. Among other sections of population, refugees best symbolise conflict and suffering on a massive scale, both within and outside their country. It means refugees are among those who need education the most . Who are refugees? Refugees are those who are forced to leave their home and country because of fear. Every year, thousands of them are forced to leave their homeland and are compelled to live in hazardous placeis. Some flee from persecution, others move as a result of war, violence, environmental disaster or harsh economic conditions. There are refugees in every part of the World as a by-product of every crisis. Each time we hear of new situations of armed conflict or of serious repression somewhere in the world, we can imagine that some people are going to become uprooted.

Although the refugees have been a matter of concern in international relations for many decades in the past, the problem today assumes global proportions. According to latest estimates, there are twenty two million refugees in most parts of the world. Out of them, half of the refugees in the world are children. With their parents, or sometimes without them, they have been torn away from everything because of events beyond their control. They are kept in some temporary camp where their future remains uncertain.

An overwhelming number of refugees and displaced persons are found in the country of Asia, Africa and Latin America. India is host for 2,75000 refugees from various parts of its neighbourhood. Thousands of Chakmas from Bangladesh are also found here. More than one lakh Tibetans are living in India for very long.Thousands of Afghans have fled to India for safety in the past 15 years or so.Two Lakhs of Sri Lankan Tamils sought refuge in India since 1983. There are 20,000 refugees in and around Delhi itself

Over and above the 22 million refugees, there are millions more who are displaced within boundaries of their own country. The total number of "displaced persons" are estimated to be more than 40 million. Besides, the phenomenon of displaced persons as a result of militant movements in various parts of the country is growing. The Hindus and Muslims from Jammu & Kashmir as well as Hindus and Muslims from Punjab, aresome of the best known examples of displaced persons in India.
The following table provides an estimated number of persons to concern of UNHCR:

S.No.	Regions	Refugees
1.	Africa	8,091,000
2.	Asia	7,925,000
3.	Europe	5,749,000
4.	Latin America	169,000
5.	North America	720,000
6.	Oceania	75,000
	Total :	22,729,000

What do refugees need? Why do refugees need education? Their first need is to be protected and in many cases, refugees need immediate assistances in the form of food, water, shelter or medical care and the most important need is to be granted asylum. But this is not sufficient. There is a need for education also. Education is a human right. Article 26 of the Universal Declaration of Human Rights (1948) states that;

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"Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages. Elementary education shall be compulsory. Education shall be directed to the full development for human rights and fundamental freedoms. It shall promote understanding, tolerance and friendship among all nations, racial or religions groups and shall further the activities of the United Nations for the maintenance of peace."

Education is everyone's lifeline to the future. It is vital for refugees particularly because women's and children's unmet needs of education constitute two thirds of the refugee populations. The presence of refugees can be a social irritant. It leads to crime; for example drug trafficking, prostitution, theft and even create threats to security of the host country. Thus, refugees need to be creatively engaged to impart values of tolerance, understanding, etc. The need of a refugee education therefore, is obvious. Though, the developing countries accept the right to education for refugees and their children, but they are too poor to provide mass education to refugees. They do not have adequate infrastructure for their own nationals and thus, they face problem to accommodate large influxes of refugees. When there is the possibility of places in local schools, very often many refugees are unable to make use of them because of language differences.

Refugees in the West do not create much problem for the host countries. In the Western countries, the educational needs of refugees are met in many ways. Young refugees of school going age are automatically accepted into the local schools. They mix up easily with the local population. They are usually scattered all over the country, making the burden of providing education manageable for each host community. Contrary to it, in the countries of the South, refugees come in such a large number that they are kept in separate makeshift camps away from the general population. The large numbers also mean that both the refugees and the host countries agree that integration is not a goal, but that the refugees should maintain their identity and eventually be repatriated. The influx of over 10 million Bengalis in 1971 from then East Pakistan, is the best example of this kind. This pattern of refugee settlement and maintaining their own national identity requires separate educational arrangements.

The United Nations High Commissioner for Refugees (UNHCR), which was created by the United Nations General Assembly in 1951, started to support primary education in 1966 and at the secondary and tertiary levels in 1975. Education for Palestine refugees, is the responsibility of the United nations Relief and Works Agency for Palestine Refugees (UNRWA) alongwith UNESCO. The UNRWA/ UNESCO school system offers only elementary and preparatory (junior secondary) education in the Arab host countries.

The agencies of the United Nations are concentrated on providing primary education. Though, the greatest need for refugee education is at the secondary and tertiary levels. What can be done? Where do they get meaningful educational means? Where can they get more flexibility? These are the issues engaging the minds of educators. The National Open School of India is in the forefront of promoting distance education as a credible alternative and an effective and viable approach in gearing up the problem of inadequate educational provisions.

Distance Education as a better alternative

Traditional education is unsuitable for refugees troubled, and tense state of mind. They can not fulfil the requirements of the conventional education system. Similarly, the conventional system is an expensive proposition for the host State. Therefore, distance education could be a better means to impart education for refugees.

If the conventional system is promoted to provide meaningful and effective education to refugees, the following conditions would have to be fulfilled:

(i) There should be sufficient qualified teachers at each level.

(ii) There should be adequate number of classrooms.

(iii) There should be libraries with enough books, and

(iv) There should be other essential teaching learning resources.

As mentioned earlier, the countries in South are too poor to provide adequate physical learning facilities for refugees. They get limited funds from the UNHCR and other donors and can not meet all the

expenses required. These are the constraints in imparting education to refugees. Distance education, therefore, is a possible solution, because, it is an approach that can be implemented quickly. It has multifarious advantages.

Distance education is a method of imparting education to students without direct contact with teachers. Face-to-face lecturing is not possible for refugees who are always scattered. The communication among them are made through the printed and electronic media. It can reach in every dispersed locations a refuge where schools are not available. Distance education is a cheaper method of education which is easily accessible for refugees in the Third World countries.

The refugees vary widely in age, sex, skills and experience which are not a barrier for admission to distance education institutions. The distance education system is the best method to deliver education to refugees because of its unique features. Firstly, it uses self-instructional print study materials. These materials are prepared very carefully in simple languages. They are self-contained, designed to make learning easy and effective.

The Second feature of distance education is the use of electronic media. Among this type of media the most common and cheaper than other technologies are the radio and television. The modern technologies like teleconferencing, computer and video conferencing, etc., may not be feasible forproviding education the refugees in developing countries, but radio and television can be made easily available to them.

The Third most important feature of distance education is face-to-face contact classes. The contact classes for refugees should be devoted to counselling, tutorials and laboratory experiments for science lessons. The limited contact classes are most required for refugees which can be organized in existing schools after the regular classes. Where no facilities are readily available, makeshift classes shaded by bamboos and mats or plastics can be organized. The best example of this kind of arrangement is found in Sudan and Somalia. The face-to-face contact is vital for refugees, particularly because they need community-life based education. Personal life oriented education; and work oriented education. Refugees should be provided proper counselling in choosing the right subjects or courses according to their requirements, experience and skills.

The last feature is the mechanism for monitoring learning. Since refugees come from a different community with a different linguistic background, having experience of different assessments system (if he/she is literate), providing help in self-assessments is necessary for them. The distance education system is known for its continuing internal assessment along with external evaluation.

The world has witnessed a phenomenal growth of distance education in the second half of the twentieth century. During this period, many Third World countries established their own distance education programmes. The Asian and African countries have some of the leading distance education institutions imparting refugee education.

The mode of distance education for refugee was first used in West Asia for Palestinian refugees. After the first Arab-Israeli war of 1948, the Palestinians were forced to leave their homes and became refugees in the neighbouring countries. The United Nations Relief and Works Agency (UNRWA), set up to assist the Palestinians, recognised that along with other relief operation, school for refugee children should be set up. As a result the Agency operates 628 elementary and preparatory schools with 3,51,136 students and 10,435 teaching posts. Almost all the teachers are Palestinian refugees. In setting up these schools, UNRWA was assisted by UNESCO. The education offered covers Primary and Secondary levels. UNRWA has not started senior secondary schools so far. Refugee students are accommodated in government or private establishments. The Agency provides grants to them in private schools when they do not get a seat in the government schools and do not charge any fees from them.

In African countries, secondary and tertiary level education are being provided to refugees. For example, refugees in Sudan, the Horn of Africa, refugees from Namibia residing in Zambia and Angola are getting education with the help of the UNHCR and other agencies through the mode of distance education. In 1984, the Sudan Open Learning Unit (SOLU) was set up to provide secondary level courses to refugees. Besides, some distance education units were established in Lusaka for Namibians and South African refugees. These institutions started with basic courses in English, Mathematics, Health Education and Agriculture. Refugees study partly on their own and partly in groups. Each group has a trained group leader whose job is to facilitate discussion, and record and transmit queries problems to the tutor. The tutor visits the group once a month and conducts both group and individual tutorial work.

Issues for Consideration

Refugees come from a different background and speak different languages. Obviously, they face language problem in the country of their refuge. In which language then should they be imparted education?

There are three alternatives:

(i) They should be taught through English medium.

(ii) They should learn the language of the host country.

(iii) Educated refugee should teach them in their own language

Besides, the study material provided to them should also be translated according to their convenient language.

Refugees should be encouraged to take up vocational and life enrichment courses which can make them self-reliant. Some of the vocational courses in skills such as motor mechanics, electrician, TV repair, embroidery or baking, may be quite useful for refugees. The UNHCR provide lump sum grants to refugees to start a business on their own and become self sufficient. The refugee community consists of a large number of women also. They need to be trained in beauty culture, embroidery, tailoring, etc.

The National Open School in India is an institution with a countrywide jurisdiction. It has acquired useful experience in catering to people of diverse background, needs and living conditions. Hence, it will be a natural choice to become a nodal point to impart education of the refugees and displaced persons in India. It may be a good idea for NOS to learn from the experiences of Distance Education programme for Palestinians before National Open School launches its own concrete refugee education programmes. Of course, NOS would need appropriate additional back-up and assistance equipment, in terms of funding, training, etc. This is where the Govt. of India can play a key role. It is pertinent to mention here that twenty-six Afghan refugee students in the age group between sixteen to twenty have sought admission to the National Open School in 1997. UNHCR is the funding authority which is being implemented by YMCA of Delhi. However, given the resource crunch the country is facing with disturbing effects on education and other social sectors, one may have to look for additional or alternative avenues of collaboration. It is here that the role of International Agencies such as UNHCR & UNESCO as well as the Non-Governmental Organisations become extremely important.

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Women's Rights Education : A Plea for The Neo-literates

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Introduction

By the beginning of twenty first century Indian Women are envisaged to step into a new era of awareness, freedom and social responsibilities. In the emerging Indian society the women are seen as the potential catalyst of social development inside and outside the four walls of their homes. The women activists, barring the 'feminists' as such have attained a great deal of success in making the Indian Women aware of her rights. The electronic and print media of the country have also playedtheir part. But such awareness generation is largely confined to the educated upper class urban society with a few exceptions. There prevails a large scale lack of awareness amongst the Indian Women about their legal rights guaranteed to them by various laws of the land. Interestingly it is found that even the educated employed urban women are also not aware of their rights. This is due to the lack of conducive atmosphere wherein such awareness among the women is deliberately cultivated through proper educational planning. This paper deals with the case of Total Literacy campaign (LTC) - a programme launched by the Government of India to attain total literacy in the country. It finds out the drawfacks of our mass education drives like TLC are in imparting Women's Rights education and what may be done to gear such programmes for awareness generation among the rural & poor women.

Background

Transition from home to the world outside has been a long struggle with the traditional shackles of Indian society. With a steady rise in the literacy rate there has been a marked increase in the participation of women in various spheres of activities. Women representatives in village level self-governing bodies like Panchayats, Municipalities, etc. The government now wants to ensure proper participation through legislation to reserve 33% seats for women in the legislative bodies and a bill to this effect has been placed before the Indian parliament. But such steps like electing women representatives to law-making bodies presupposes that our women members are aware of their rights themselves and there is a general conscious environment to claim such rights; mere reservation will not improve the condition of Indian women overnight. Studies in Indian women's awareness about their rights have not been positive and demands further work in this area.

Against this backdrop this study was undertaken to find out :

1. The present status of Indian women's awareness of their rights as seen through a sample survey among women.
2. The causes of lack of awareness among Indian women about women's rights.
3. The possible means to include proper women's rights education modules in the literacy drives like Total literacy Campaign (TLC) to educate the neo-literate women about their rights.

Women's Rights Education - Definition & Limitation

"Constitutional and legal rights of women in India and that of the girl child are not known to a vast section of our population in this country" (Mandal, 1995 : Preface). These rights are related to the constitutional provisions (which are equally applicable to all the citizens of the country) and the marital rights under various personal laws as well as rights against atrocities on women. Women Rights Education means a planned effort to inculcate an awareness about these rights among women. But, this

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study is limited to the literacy campaigns and post literacy programmes wherein the scope of womens rights education is to explored.

Awareness Survey : Results

A few pertinent questions were asked to a sample consisting of 200 women belonging to various groups like Educated, Illiterate, Employed, Urban, Rural etc. and the following results were tabulated :

Are you aware of your constitutional, legal & marital rights?

Groups (%)	In details (%)	Vague Idea (%)	Nil
a. Educated	21	34	45
b. Employed	19	28	53
c. Urban	17	19	64
d. Rural	5	13	82
e. Neo-Literate	8	17	75
f. Illiterate	1	5	94

How will you react -

When your brothers do not give you a share in your family property

Response	Percentage
a. Leave the matter there	61
b. Take the matter to the court/legal forum	7
c. Don't know	32

When you are discriminated in your workplace .... In terms of wage, etc.

Response	Percentage
a. Adjust myself to the situation	45
b. Ask for redress	21
c. Don't know	34

When your privacy has been attacked

Response	Percentage
a. Conceal the matter	64
b. Seek redressal/take the matter to the Court	12
c. Don't know	24

When your husband / in-laws treat you badly

Response	Percentage
a. Adjust myself to the situation	55
b. Seek redressal/take the matter to the Court	9
c. Don't know	36

How did you became aware of your rights.

Media	Percentage
a. Television	26
b. News paper/Magazine	16
c. Neighbours and friends	13
d. Literacy Classes	10

e. Social Workers of the Area	4
f. Books on Women Issues	8
g. Parents	12
h. Husband & In- laws	3
i. School/College	8

What is the cause of lack of women's rights awareness?

Causes	Percentage
a. Lack of Learning Opportunities	43
b. Lack of family support	20
c. Discouragement from society/in-laws	18
d. No conducive atmosphere	13
e. No state patronage	6

Have you learnt enough about your rights as a woman?

Yes	On Know	Don't
10	77	13

The foregoing data makes it crystal clear that there exists an urgent need of increasing the awareness level of the Indian women about their legal, constitutional & marital rights. We can see that as much as 45% of the educated women are not aware of their rights and 94% of the illiterate women have no idea about women's rights. A corroborative response is also seen when only a small percentage of women indicated that they would go in for legal/judicial redressal against any infringement of such rights. At the same time it is also well founded that most of these women (77%) are aware that they do not know enough about their rights.

Total Literacy Campaign : Present Status

At present the TLC in Cachar Dist of Assam is in the last phase and as per the guidelines of the National Literacy Mission the total focus of the campaign is on attaining the functional literacy. National Literacy Mission has set the level of literacy which is to be attained during TLC as follows :

Reading	Loud reading of 30 words per minute and silent reading of 35 words per minute. Reading & understanding general posters, road signs, simple directions, news-paper, simple write-ups, etc.
Writing	Writing/copying 7 words per minute, dictation 5 words per minutes legibly. Besides these, one should be able to write small letters, applications and fill up forms.
Number	Reading & writing 1 to 100, addition, subtraction, multiplication & division of two-digit numbers, knowledge of units of weight, quantity, length, volume metric scale and counting money, measurement of time, simple interest and ratio.

In TLC, besides literacy three other aspects have been emphasised :

Awareness : Learners should be aware of the needs of health & hygiene, rules & regulations, duties towards family, Society and the nation.

Effectiveness : Utilisation of gathered knowledge in daily life.

National Values : Love for the fellow countrymen irrespective of caste, creed, etc. Preservation & furtherance of national wealth and honour.

Besides these elements, eagerness should be developed about local folk-lore, culture, flora and fauna, etc. Efforts should be made to develop scientific temper among the people. Therefore, people

should be motivated on this national endeavor and proper training should be given to the volunteer groups to achieve 100% success in the campaign. Beyond literacy TLC aims at development of general awareness, unexplored potentials and team spirit among the people. However the Women's Rights Education elements are pathetically missing in the main literacy drive modules as well as post-literacy drives.

It is found that there is ample room for inclusion of education materials women rights in the post-literacy programmes of TLC. The neo-literate women are very much eager to know about their rights but there is not much materials to give them suitable awareness. To make the newly found literacy worthwhile for these women, the post-literacy drive should focus on a concerted effort to raise the awareness level in terms of their rights. There is not much materials on women's rights which can be presented at the post literacy level for the neo-literate women. There is a need to gather such resources & suitable material production in the form of booklet, video films, and cinema. But, at present there is no provision for such activities in the scheme of Total Literacy Campaign.

Conclusions

The following conclusions are drawn from this study :

1. There is a lack of awareness among the Indian women in general and rural & illiterate women in specific about the legal, constitutional & marital rights.
2. The main reasons of such lack of awareness may be enumerated as dearth of learning opportunities, discouraging atmosphere in the society, non availability of state patronage for women's rights education in its educational programmes like TLC.
3. The neo-literate women are aware of the newly found awareness about their rights and they are very much eager to know more about their rights. They are adaptive and responsive to various exposures to mass media wherein the women's rights issues are highlighted.
4. The Total Literacy Campaign (TLC) launched by the Government of India lacks proper modules for women's rights education and this gap may be bridged through resource generation and suitable material production.
5. Post Literacy programmes, particularity in the total literacy districts, may be geared for women's rights awareness generation.
6. Due to inherent limitations of this study, it is found that the issues concerning a mass programme for women's rights education should be studied in order to develop the properperspective and a comparative study may be done with advanced countries in terms of women's literacy rate and awareness.

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Identification and Management of the 'Typical' Behaviour of Children with Attention Deficit Hyperactivity Disorder (ASHD)

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Introduction

Attentional behaviour and cognitive development are inseparable. Children who often find difficulty in paying attention to the required tasks are said to have attentional disorders. Attention Deficit Hyperactivity Disorder (ADHD) is the term used to describe children who display attentional problems and symptoms of hyperactivity and impulsivity. ADHD can be one of the reasons for academic and school related difficulties. ADHD is not a disease, but refers to a constellation of symptoms which cover both the quantitative and qualitative aspects of behaviour.

In India, the awareness about this disorder is limited. Most of the times ADHD is diagnosed by a medical doctor The most commonly used tool by the doctor is DSM III/IV. DSM criteria have limitations in establishing a firm diagnosis of ADHD. Children with ADHD show a wide variety of behaviours, but not all children will show all behaviours.

The purpose of this study was to help teachers and parents identify children with ADHD and to plan interventions taking into account the special conditions that prevail in the Indian classrooms.

Major characteristics of children with ADHD

- Short attention span or concentrates for brief periods
- Impulsivity, acts quickly, often without thinking
- Distractibility/notices movements or sounds around him
- Excitability/often reacts to the extremes
- Dramatic mood change
- Trouble getting satisfied

Other Characteristics

- Tendency to deny mistakes or blame others
- Difficulty in completing tasks
- Need for constant attention and reassurance
- Low frustration tolerance
- Poor organizational skills
- Inconsistent school performance
- Associated learning difficulties
- Poor peer relationships.

Objectives of the study

1. To develop a rating scale which can be used by teachers to identify typical behaviors of children with ADHD.
2. To study the behavioral implications of ADH in different settings. Is there situational variability in home or school?
3. To develop and implement a management programme based on cognitive strategy training of children by parents and teachers.

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4. To study the effectiveness of cognitive strategies in reducing disruptive behaviours.

Methodology

The study used case study method.

Sample : The population consisted of 1920 children from 8 private aided English Medium Schools. Out of the population of 1920 children surveyed 142 children were identified as showing symptoms of ADHD on Teacher Rating Scale Of these 142 children 67 children showed difficulties only in attention and no symptoms of hyperactivity and thus were excluded from the sample. 75 children were identified as showing the criterian symptoms of ADHD. Of these 29 had not received any medical diagnosis so were excluded from the sample From the 46 children who were officially/medically diagnosed as showing ADHD (this was ascertained from hospital records, school records and parent interviews) 12 children were excluded from sample. Thus the final sample consisted of 34 children identified as showing ADHD. Only 8 children were randomly selected for the case study.

The Research Tools : The following research tools were developed by the researchers for the study :

1. Teacher Rating Scale
2. Parent Rating Scale
3. Systematic Observation Schedule.
4. Management plan for Teachers.
5. Management plan for Parents.
6. Parent Interview Schedule.
7. Teacher Interview Schedule.

Review of literature in the field of ADHD, its assessment and management indicates that assessment procedures call for a 'total child' approach and indicate that parents and teachers can be relied more to identify the child with ADHD than only the medical practitioner. This study followed an assessment and identification procedure that included rating scales, systematic observation and parents/teacher interview.

Interviews with teachers to understand child's behaviour and teacher perceptions focussed on class environment, school climate and teacher concerns. Parents were interviewed to understand home environment and parental concerns.

Based on the interviews suitable strategies were developed in consultation with parents and teachers as per the needs of individual child and the specific environment in which he lived. The strategic management plan was implemented by parents and teachers in sessions ranging from 30 mts. to 45 mts. over a period of two weeks.

Initially the teachers and parents were oriented towards the usage of strategies to develop more positive home/class environment. Monitoring of the changes in behaviour during the remediation phase was done through parent/teacher monitoring records. For Rsacticat monitoring procedure parents were asked to rate behaviour daily and teachers were asked to monitor and record changes on a weekly basis. Systematic observation of the subjects' behaviour was done by the researchers to monitor behavioral changes. Exit interviews were conducted with parents and teachers to discuss effectiveness of the various strategies.

Results : The group analysis yielded the following results.

Range of Behaviours shown by total group

Table 1- Percentage of children showing different behaviors as per the ratings of parents and teachers.

	Attention	Hyper-activity	Impulsivity	Demanding behavior	Social clumsiness	Emotional variability
Parents	65	62	63	51	46	32
Teachers	66	67	63	57	36	33

Table-1 shows that the parents rated attention problems as most intense, whereas the teachers found hyperactivity of highest intensity. Both parents and teachers considered emotional variability as lowest intensity.

Both attention and impulsivity were rated alike. In the area of hyperactivity teachers rated children higher than parents by 5 per cent points. In the category of social clumsiness parents showed a higher rating (10 points) than teachers. Emotional variability was rated at the same level by the parents and teachers.

Identification of 'Typical' Behaviors based on intensity of behaviors shown by the total group.

Table 2. Percentage of Children Showing Intensity of Behaviors.

Behaviors	*High %*	*Moderates %*	*Low %*
Attention Problems			
* Shows difficulty coming to task-may need to be reminded to begin task	47	41	12
* Shows difficulty in sustaining attention on task	53	41	6
* Shows difficulty in sustaining attention during play	42	35	23
* Is often distracted by classroom noise, outside activities, peers, etc.	77	23	-
* Often shows difficulty in organizing tasks and activities - shows confusion and lack of coordination when starting activities.	32	44	24
* Makes careless mistakes in school work.	47	35	18
* Avoids, dislikes tasks that require sustained mental effort.	29	47	24
* Displays poor organization skills in classroom e.g. may lose things necessary for activities or is forgetful in daily activities.	29	44	27
Hyperactivity :			
* Constantly fidgets with hands and feet, squirms in seat.	65	29	6
* Leaves seat in classroom or other situation when remaining seated is expected.	59	29	12
* Runs around or indulges in motor activities such as climbing, jumping where it is inappropriate.	56	32	12
* Has difficulty in engaging in leisure activities or playing.	35	32	33
* Appears to be constantly in motion walking or running.	50	29	21
Impulsivity :			
* Interrupts or intrudes on others conversation or games.	41	38	21
* Often answers questions before required.	41	33	26
* Shows difficulty waiting in lines or awaiting turns in games.	47	40	13

* Shows excessive irrelevant verbal behaviour	36	35	29
Socially Clumsy :			
* Isolates self from other children	3	21	76
* Seems unaccepted by group	3	35	62
* Interferes with activities of other children	18	32	50
* Appears to lack leadership-seems easily led	0	6	94
* Does not get along with other children	3	21	76
Insatiable/Demanding :			
* Easily frustrated in effort	18	32	50
* Excessive demanding of teacher's attention.	40	32	28
* Demands must be met immediately	41	24	35
Emotionally :			
* Daydreams, stares vacantly at nothing in particular	12	12	76
* Destructive of property-own and others	12	18	70
* Appears serious (not depressed) or sad	3	3	94
* Shows aggressive behavior, quarrelsome, initiates fights.	3	15	72
* Mood changes quickly and drastically-may vary from quiet to exuberant and overactive crying to laughing	3	24	73
* Shows temper outbursts, explosive and unpredictable behavior.	9	15	76

Identified 'Typical' behaviors of Children with ADHD

- Difficulty in coming to task.
- Difficulty in staying on task.
- Distractibility.
- Difficulty in organizing tasks and activities.
- Unable to give attention to details.
- Faiure to finish tasks.
- Careless mistakes in school work.
- Difficulty/Dislike for tasks which require mental effort.
- Constant fidgeting.
- Leaving the classroom when being seated is expected.
- Running around and indulging in motor activity.
- Appearing to be constantly in motion.
- Interrupting or intruding into conversations and games.
- Often answering questions before required.
- Showing difficulty while waiting in lines or awaiting turn in games.
- Excessively demanding for teacher's attention.
- Poor organization shouting in classroom, losing things, forgetfulness.

Trends in the Case Studies

The eight case studies analyzed in the study provided an insight into the type of behaviors shown by the group. Attentional deficits, hyperactivity and demanding behaviors were shown by almost all the children. Social clumsiness was shown by 3 (teacher's rating) and 5 (parent's ratings) children. Emotional variability was shown by none. Intensity of behaviors were in the high to moderate intensity range - though most children showed high intensity.

In almost all cases parent and teacher ratings showed a match. Even when differences were observed they were marginal. In a few cases parents rated children as more hyperactive and impulsive than teachers. This finding is contrary to findings by other researchers (Klein, Gittelman, Klein; 1975)

who found mothers to under-rate the child in comparison to teachers. Observation by the investigators in the classroom substantiated teacher ratings.

Effectiveness of the Remedial Programme

Although there is a dearth of research is lacking which specifically tests means of improving attention and hyperactivity/impulsivity through environmental modification, it stands to reason that if a behaviour is being reinforced by an environment stimulus, removal of that stimulus should eliminate the concerned behavior. The case study approach in present research allowed to study the child in the different environments and so provided valuable insight into what reasons are behind the many behaviours a child manifests.

Hyperactivity, for example, is characterised by poor ability to redirect activity - hyperactive children are likely to demonstrate higher levels of activity in situations that restrict activity such as within home or classroom. Similarly attentional difficulties may be caused by auditory and visual distractors within home and classroom. Impulsivity and demanding behaviours may be learned or attention seeking.

At no point it can be suggested that these behaviours are extrinsic to the child but only that modification of the environment both physically and in terms of the attitudes of significant adults in the child's environment, was considered extremely important. Simple strategies were used to modify environment in school settings.

Addressing the child directly and informing him of direct supervision provided the child with appropriate cues to come to attention and for positive feelings of 'Special attention'. All teachers reported that disruptive behaviors reduced almost immediately. Relocation of the child to more appropriate seating was also effective. The strategy viewed as most effective by teachers was the placement of the child alongwith a 'study buddy'. It provided the child with feedback from the other child and gave him a sense of belongingness to the class. All teachers indicated that the effects of environmental modification were seen even after sessions concluded. For cognitive behaviours, the Modification approach was used to modify behavior by changing the individuals' pattern of thought which focussed on cognitive change. It included self-treatment techniques such as self-direction, self verbalization, self-instruction, self-monitoring, self questioning, etc.

The teachers reported that younger children (5-6 years) responded better to verbal cues, single instructions, reducing length of tasks and praise. Contrary to this, teachers of slightly older children (7 years) found both self-monitoring and self-talk very effective in improving many behaviors in the attentional domain specially organizational skills and sustenance of attention. In all other categories of behaviours studied, such as, hyperactivity, impulsivity, social behaviours and demanding behaviours teachers reported the same trend. Teachers of younger children preferred the use of other methods and teachers of the 7 year olds found cognitive strategies extremely effective. Classical operant conditioning techniques were also used. Some of these were time-outs, contracts and goal card programmes. Time out mere not favoured by teachers, even though effective, as the underlying feeling was that it was more damaging to the child than useful. Teachers found goal-card programmes and sticker charts extremely effective. This was attributed to the fact that it provided one to one interaction with the teacher. Also all instructions were stated explicitly and were visible and tangible for the child. Praise, ignoring of minor behaviors, seat breaks, etc. were considered highly effective.

The home plan for the parents revealed that most parents' though very concerned about their children, were caught in the snap of attending to their child's 'bad' behavior instead of focussing on the 'positive' behaviours. In most cases, behaviours were mismanaged by parents. It was clear from parents' interviews that introspection by parents and increased awareness of the implications of ADHD helped parents to change their attitudes. This was considered by parents as the most important part of the programme. Changes in parental attitude showed an immediate change in the child's behaviours.

The home plan did not focus on academics but on behaviours which were problematic within home such as non compliance with instructions, poor task completion, demanding behaviour, hyperactivity, etc.

All parents reported that cognitive strategies such as self-instruction, self verbalization and self questioning were effective even with younger children. This could be attributed to the one to one interaction within the home as against the classroom that does not provide this. Parents also found goal-

card programme and sticker charts effective. Physical excercise which was used to combat hyperactive behviour was found very effective. Within the classroom and at home, praise, eye contact and ignoring of minor behaviours were reported as highly effective.

Conclusions

1. Not all children show all 'typical' behaviours in similar intensity. However, behaviours in the area of attention hyperactivity, impulsivity and demanding behaviours were shown by 80% of the subjects.
2. Social clumsiness is a secondary characteristic of ADHD. Due to poor attention and impulse control many children manifest difficulties in peer interaction, inability to understand social cues and behaviours that are socially inappropriate and to take turns and have poor team participation.
3. Emotional variability is not a central part of the ADHD syndrome. 75% of the subjects showed low intensity of these behaviours and hence, were considered as peripheral in nature and related to environmental conditions of an individual child.
4. Subjects showed similar intensity of symptoms in both settings viz. classroom and home.
5. The management plan was effective in reducing the frequency of behaviours in all domains that were selected for remediation. Strategies to modify classroom behairour both physical and psychological were easy to implement and showed immediate change; this was true even in the home. A combination of cognitive strategies along with token reinforcement and goal setting, emerged as the most successful tool in managing behaviours.

Outcome of the Study

Two handbooks have been prepared for parents and teachers to manage the children with ADHD at home and school, respectively.

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Approaching Special Groups Through Distance Education : The Case of Child Labour & Disability

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Introduction

In the last decade or so, distance education in India has strongly and convincingly emerged as a viable complement, supplement and, indeed in many cases, as an alternative in itself, to the conventional system of education. Its openness and flexibility in admission, pace and place of students' learning, the possibility of selecting varying course combinations to suit one's interest, its ability to respond to the needs of a particular student group in terms of adapting the content of education and the method of choice in meeting the educational requirements of a large population with diverse needs and abilities.

In India, we have the advantage of distance education programmes being available both at the School and the University level. Consequently, a wide range of courses and programmes of study are available to the learners - ranging from the 10^{th} and 12^{th} class certificate programmes to B. A./B. Sc. Degree programmes to professional and vocational programmes in areas like management, computers, early childhood care and education, teacher education, nursing, library sciences, to name a few.

This paper proposes to highlight some ways by which the Distance Education system can address itself to two areas on which it has not focused adequate attention as yet :-

- Child labour and
- Disability, particularly with reference to children.

The paper outlines how the disabled and the child labourers can be the target learners as well as the subject matter of distance education programmes. The distance education system, both through its programmes and the resources at its command for the delivery of its programmes, has the potential to reach out to :

- Child labourers and the disabled
- Their parents
- Professionals working for their uplift
- People in general, and opinion makers and employers in particular.

When using the term 'distance education' in this paper, we are referring to the institutions working in this area both at the School and the University level. The activities/directions, being outlined in this paper, may be taken up by Distance Education institutions working at either of these levels - singly or together, thus enhancing their impact and achieving multuplier effect.

Child Labour and Distance Education

The problem of child labour has to be tackled both through preventive and rehabilitative measures.

Among the many preventive measures on the economic and social front, that need to be enforced to reduce the incidence of child labour, the ones where the education system can be used to create an impact are:

1. Awareness generation among people in general, and specifically the opinion makers, religious leaders, political leaders at local levels, voluntary organizationsand the non-working children.
2. Ensuring the reach of primary education to each and every child - primary education which is need based, relevant and interesting.

The rehabilitative measures include the following among others :

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(i) Awareness generation among employers and parents of child labourers, enforcement agencies, teachers, government functionaries and implementers.
(ii) Bringing the children, employed as labour, back to the mainstream of education.
(iii) Inducting vocational training into their education process at an appropriate stage, so as to ensure self-employment and economic self-reliance.

Using Distance Education for Awareness Generation

The distance education (DE) system is uniquely placed to assist the various governmental and non-governmental organizations working to generate awareness among people regarding the evil of child labour, by the sheer fact of the numbers who are enrolled in distance education institutions. A DE institution reaches out to a vast number of people through its network of study centres. As a first step, pamphlets, leaflets, posters and other awareness raising material designed by the Open Universities, Open Schools or other organizations could form a part of the course material dispatched to each and every learner who is enrolled in a DE institution. Using the printed word for consciousness raising is just one of the ways. The DE system uses a media mix in reaching out to its learners and these very media can be creatively and imaginatively utilised for the purposes of awareness generation To give an example, a three to four minute filler on the issue of child labour before broadcasting any audio or video programme for the DE students on the T.V./the radio/at the study centres or even before or between the breaks of teleconferencing sessions organized for various programmes of study, could be some of the ways In this way, the system could, over a period of time, be instrumental in consciousness raising and sensitization of the people, at large.

Apart from this general campaign aimed at the public at large, there is also a need to address different sections of the society directly responsible for child labour and those directly involved in implementing various schemes and programmes for elimination of child labour. Thus, the content and messages as well as the choice of media for imparting these messages would be determined by local and regional factors.

It is not as if the media has hitherto not played a part in social mobilization against child labour. It has. The various newspaper reports, documentaries, films, radio programmes have effectively moved individuals and organizations to action. But quite often, these interventions have been ad hoc in terms of time/period or coverage. What this paper is arguing for is the need for developing a multimedia strategy to cover various groups of people at district, state and national levels. The DE institutions with the vast telecommunication resources at their command and their outreach, through their study centres and other institutions and organisations associated with them, can be effectively utilized to achieve a ripple effect.

Reaching out to Child Labourers Through Distance Education

In an effort to rehabilitate children employed as labour, the Ministry of Labour, Government of India under its National Child Labour Project, has a scheme of setting up special schools where they are enrolled and are paid a stipend to ensure their retention in the schools. These special schools impart non-formal education, and at a suitable point in the education process, vocational training in the area of the child's choice is also provided This could be the second area where the potential of DE system could be exploited. The Distance Education institutions could be involved in designing and preparing interesting and relevant self-instructional materials for children enrolled in these special schools. We need to remember that many among these children are first generation learners, lacking both the motivation and the study skills. In such a situation, the Distance Education system with its unique advantage of being able to use a media mix in imparting education could prove to be very useful The distance education system could respond to the needs of the children by initiating education for them from the aspects which seem most relevant and then building upon it, using medium other than the print initially. Thus, the mastery over print material which often frustrates and demotivates the new learner, can be initiated after the child's desire for learning and knowledge has been kindled through other means, such as use of audio and video programmes, radio and television broadcasts and picture-based print material. Subsequently, when print-based instruction is to be used, the 'guided didactic conversation' which a DE programme of study

uses, could prove to be much more inspiring and effective in helping the child learn as well as retain what has been learnt.

The purpose, content and methodology of imparting education to the children enrolled in these special schools using the distance education mode my be different; indeed, one may say that it must be different, for children belonging to different regions, based on an assessment of their needs. A decentralized approach towards design, development, implementation and delivery of programmes has a greater chance of success. At this juncture, it seems pertinent to mention the DPEP initiative (District Primary Education Programme) that has been launched nationwide with the purpose of universalizing primary education. The DPEP proposes to use both the conventional as well as the DE system as tools to promote need based primary education, which would incorporate regional contexts and vibrantly respond to diverse student needs. While planning programmes of study for the children pulled out from hazardous occupations, valuable lessons could be gleaned from the DPEP initiative.

While bringing all the children employed as labour, whether in hazardous or non-hazardous occupations, back to the schools is the ultimate goal, it would be idealistic to believe that this can be achieved in the near future. While keeping this goal firmly in sight, there is a need to think of some short term measures to provide opportunities for education to the children employed at various work sites around the country. One of the initiatives could be to provide non-formal education to the children at the very places where they are employed as labour, by physically withdrawing them from work for a couple of hours. Such an intervention must also have some component of play and recreation-activities which are the essence of childhood but totally denied to child labourers. While making this suggestion, one is aware that one leaves oneself open to criticism from that group of activists who strongly uphold that any stand other than complete withdrawal of children from occupations they are employed in, is a dilution of one's stand as regards elimination of child labour. But it is equally important to remember that in the time it takes that nation to totally eliminate child labour, we might miss out on providing some form of intervention to an entire generation of working children.

In this effort, as indeed in all others, the DE system must collaborate and join hands with other institutions, particularly in the voluntary sector, who already have initiated such activities. In this context some of the innovative educational initiatives have been Platform Schools of Ruchika Social Service Wing, Bhubaneshwar; the Camp Approach of M. Venkatarangaiya Foundation, Andhra Pradesh; the Action Programme of Alarippu, Delhi; the project of mainstreaming working children in schools undertaken by the Karnataka State Council for Child Welfare.

Using Distance Education for Teacher Training

A third intervention by the DE system could be in the area of teachers training. While recruiting qualified teachers in the special schools mentioned above is essential, it may not always be possible to do so. Training such teachers is an essential prerequisite before any educational intervention can be conceived. Even if the teachers are qualified, they may need orientation/re-orientation to conduct education programmes in the non-formal mode and enable them to retain students' interest by transacting the course content in such a way that it appears meaningful to the students. It is also important to remember that the role of a teacher is not just limited to teaching but also includes that of advocacy, a watch dog role and that of opinion makers and nowhere is it more crucial for the teacher to blend these roles than in the case of those working in these special schools for child labourers. There have been several one-time initiatives in this area of teacher training by NGOs but what one needs is sustained efforts and workable, replaceable models. When designing training material for these teachers, one need not limit oneself to print material. Radio and T.V. broadcasts, mobile vans which can screen audio and video programmes, face to face contact, the use of satellite technology-all of these and others in a judicious mix can be used effectively and imaginatively to strengthen their theoretical base and develop pedagogical skills.

The Disabled and Distance Education

The disabled as a population group has hitherto been, by and large, neglected by the Distance Education system in India, whether it be from the point of view of :

(a) designing courses/programmes of study specifically for the disabled (children and adults),
(b) designing programmes to address the training needs of professionals working in the area of disability,
(c) designing courses that will enable the parents of disabled children to take better care of their children, provide them stimulation and learning opportunities to enhance their development, or
(d) creating awareness regarding preventive and rehabilitative aspects of disability.

There is tremendous scope for course development through the distance education system in each of the above mentioned areas.

Making the Distance Education System Responsive to the Needs of the Disabled

As an example of designing courses/programmes of study specifically for the disabled, one of the initiatives could be to make available the courses and programmes of open schools and open universities in Braille, which could help in meeting the educational needs of some of the visually disabled, where their only handicap is their inability to read print. In some other cases, the procedures for admission, taking of examinations, completion of practical component of the programmes of study, may need to be modified or relaxed. While the television and radio broadcasts and the use of satellite technology has done much to take education to the doorsteps of the learners, students with disabilities still need to make considerable efforts in being able to use the education system whether it be in terms of travel to study centres, decoding the heavily print based instruction or reliance on the written word as the means of testing the knowledge acquired by the learner. Viable alternatives have to be thought of and recognised as valid within the system.

Setting up of special schools is one of the rehabilitative measures for children with certain disabilities. However, these schools are few and far between and are able to cater to only a minority. Besides, most children with mild and moderate levels of disability can be integrated in schools for 'normal children' though, of course, it requires some additional inputs on the part of the teacher and the school. Mainstreaming the disabled children into schools for 'normal children' is what we need to strive for, but there are many difficulties in implementing it. Many institutions working specifically for the disabled do publish materials specifically aimed at parents to enable them to take better care of children and to foster their all-round development, but these institutions are primarily located in urban areas and many families are not able to gain access to them. Distance education is a potentially useful tool which can be used to develop materials which can popularise the community-based rehabilitation of the disabled and can effectively guide the parents, teachers, community workers and the disabled themselves to take care of their needs. In this context the Manual prepared by the World Health Organization on 'Training in the Community for People with Disabilities' is an example of the type of material that needs to be prepared in this area.

While some generic material needs to be prepared which can serve as a core in guiding parents, teachers and the disabled themselves to foster their development, there is equally a need to provide more individualized support. The extent and nature of disability, the resource support available within the family and the society make the needs of one disabled child/person different from that of others. To give an example, the degree to which a child's hearing is affected will influence the extent to which her speech development is delayed or impaired. So, two children diagnosed as having hearing disability, may need entirely different inputs for speech therapy depending upon the decibels of hearing loss, the age at which hearing loss occurred and the early stimulation provided to each. Thus, in the context of programme development in the distance education system, besides the core programme there would need to be a provision of extended interaction between the tutors within the distance teaching system and the receivers of course material so as to provide specific guidance, counselling or referral as desired by the learners. Of course, this is something that cannot be handled by the DE system alone. To provide such resource support, the DE institutions would need to network with various voluntary and government organizations working in specific areas of disability.

Addressing Professionals through Distance Education

Training and in-service training is a much-felt need voiced by the professionals working in the area of disability at the field level. To give an example, the Spastics Society of Eastern India selects only 6 to 12 applicants for its training course conducted in the face to face mode out of the many who apply for admission. The DE system can easily step in to fill the gap, of course ensuring that adequate practical training is provided to the learners through placements for short periods in institutions for the disabled. At this juncture, it does not seem necessary to labour over the point that imparting training through distance education would enable one to reach out to many more professionals than is possible through the face to face mode and that this can be done without displacing them from their jobs.

Besides developing specific programmes of study for training professionals to work with disabled children and adults, any course on teacher training or that dealing with children as its subject matter can, and one daresay must, encompass within its scope, the needs and rights of special children. Even a teacher in a school for so called 'normal children' needs to have a positive orientation towards the disabled, not only so that she can handle and deal with disabled children in her class, if there are any, but also so that she can develop a sensitivity in the 'normal children' towards their less able peers At this juncture, an incident springs to my mind During a lecture to a group of young teachers on how to deal with special children in one's class, a young teacher who taught Class XI, admitted feeling extremely awkward in broaching the topic of disability in her classroom, since she had a physically handicapped girl in her class. Therefore, for the entire year she did not take up the topic of disability even though it was very much a part of the syllabus. This is a pointer that we, as teachers, need to resolve our own perception towards the disabled before we can hope to communicate anything positive to our students.

At this juncture, I would like to make a mention of the Diploma Programme in Early Childhood Care and Education launched in 1995 by the Women's Education Unit of the Indira Gandhi National Open University. This may seem like a digression but it underscores a point In India, as we know, there is no licensing of pre-schools and adequate qualifications on the part of teachers employed in nursery schools and pre-schools are not insisted upon. The training of teachers in this area is mainly left to private endeavours. The above mentioned Diploma Programme of IGNOU was prepared with one of the objectives being that of building a trained cadre of motivated educators/teachers in this area. The enthusiasm with which this programme has been received in India and abroad is an indication that a similar programme in the area of disability may equally be a felt need, though unvoiced, of the people working in this area.

Conclusion

Quite obviously a few distance education institutions cannot undertake these tasks by themselves. It needs networking-both at national and regional/local levels-with other institutions, organizations and bodies in the voluntary as well as the government sector who have been addressing these issues over the last so many years. This networking and sharing must begin right from the time of conceptualization of a course/programme of study and continue through its preparation, implementation, delivery and feedback. But networking is successful only if there is constant interaction among the various organizations involved and when all the partners are equally motivated. Otherwise what usually begins with a lot of expectation and enthusiasm, tends to fizzle out.

It is also necessary for the conventional and the distance education system to mutually reinforce and, at times, dovetail their efforts when designing and implementing programmes of this nature. This becomes even more important when developing programmes that respond to local/regional needs. A generic macro programme of study developed in the DE mode can be interpreted and transacted regionally/locally by the regional colleges of education, DIETs & SCERTs and the study centres or work centres of the DE institutions.

Another pitfall that we need to guard against is the delivery of the programmes of study. The very advantage of the DE system, its outreach in terms of numbers, can become its biggest disadvantage. But limitations notwithstanding, there is tremendous scope for course design and development through the coordinated and concerted efforts of DE institutions, conventional universities/colleges and the organizations working in the area of child labour and disability.

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Impact of Women's Education on Political Alienation : An Empirical Exploration

Sandhya Saxena[1]

Introduction

Education is the key to a better life in future But we all take it for granted that education has a special role to play in the lives of women because of the historical handicap women of all societies have been subjected to. This premise is based on the global experience of the social, political, filial and even biological wrongs done to women which the women accepted and tolerated quietly not because they were not gritty or defiant, but because they were ignorant, illiterate and politically uneducated. They have not been able to recognise these as wrongs at all. A woman can recognise her own worth, can identify the need to be an individual in her own right and can assert herself in her own independent capacity only when she is educated.

A blind man can not understand what he has missed when he has never seen a sunset. However, he tries to overcome his handicap by sharpening his other senses that are not handicapped. But a woman, though she is not physically handicapped in the sense that a blind man is she is socially handicapped and the social handicap can be overcome by her through the instrument of education. Education is the weapon she can use to fight the war of inequality between the illiterate and the educated. Thus education is the ornament that beautifies a woman forever and knows no barrier of age, race, class or status. It is the ticket that allows a woman to proceed on the journey towards the economic independence and at the same time is the book that opens the pages of her civil rights to her. Education is the door that unlocks to welcome her into a world of good health, healthy children and an understanding husband just as much as it enables her to fight for her less fortunate sisters.

Political Empowerment of Women in India

Forty -seven years after the Indian Constitution gave women complete political equality -- a right which women in countries like Switzerland got only as late as in 1971 – their participation in election as voters and candidates, remains abysmal.

Women's representation in the parliament has never crossed 10 per cent. There were 42 women M.P.s. in 1984, only 27 in 1989 and 36 in the last Lok Sabha; that means that in the new parliament 36 to 491 women standing in the election were successful. In a nation of almost 480 million women these three dozen women will have the most direct interaction with policy makers. In the last concluded polls only 3 per cent of the contestants were women. Even the female voter turnout was low -- 11 per cent less then the men in the last four elections.

However, these seem to be a universal phenomenon. The percentage of parliamentary representation of women in the world is only 12.7 per cent. The advanced Western democracies such as in the USA and UK are worse than India. The negligible participation of women in electoral politics is part of a wider process where women are being devalued both in social and economic terms. If we have a negative women employment growth rate (it has reportedly declined from 8.3 to 2.3 per cent over the last decade), it is bound to be reflected in women's participation in politics as well.

A recent World Bank study says that educating girls is not a charity, it is good economics and if developing nations are to abolish poverty, they are to educate the girls. It also say that conomic and social returns on investments in education for girls are substantial and on the whole,probably greater than those for boys.

But the most unfortunate thing is that in India young girls remain intellectually under developed as they are denied the opportunity to attend school. It is estimated that 55.5 per cent girls at the primary stage and 77.7 per cent girls at the middle stage school drop out. This is because the girls start helping

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their mothers in the domestic chores at a very early age. Enrollment of girls in higher education had been static between 1975 to 1985. Keeping all this in view, it is surprising that the female literacy rate is very low in India -- 99.42 per cent in 1991 census. Out of the total population of over 560 million only 130 million women are literate. The female literacy rate was varying from state to state, being 65.73 per cent in Kerala and 25.5 per cent in rural Rajasthan. The total literacy ratio in 1991 recorded only 11 per cent for women as compared to 52 per cent for men. In absolute terms the number of illiterate females is increasing at a faster rate than its male counterpart.

In India women make up approximately 50 per cent of the total population, but their representation in public life is remarkably small. Women simply have not moved beyond the ballot box and into local and national life.Women's representation in Parliament and in the State Assemblies has never gone beyond 8 per cent and 10 per cent, respectively. Political empowerment does not imply just the right to vote silently but, to discuss, share and empower politics to know its pros and cons and thereby influence policies and decision making. The cardinal goal of democracy "of the people, by the people and for the people" therefore can not be optimally accomplished if 50 per cent of the population remain out of political empowerment.

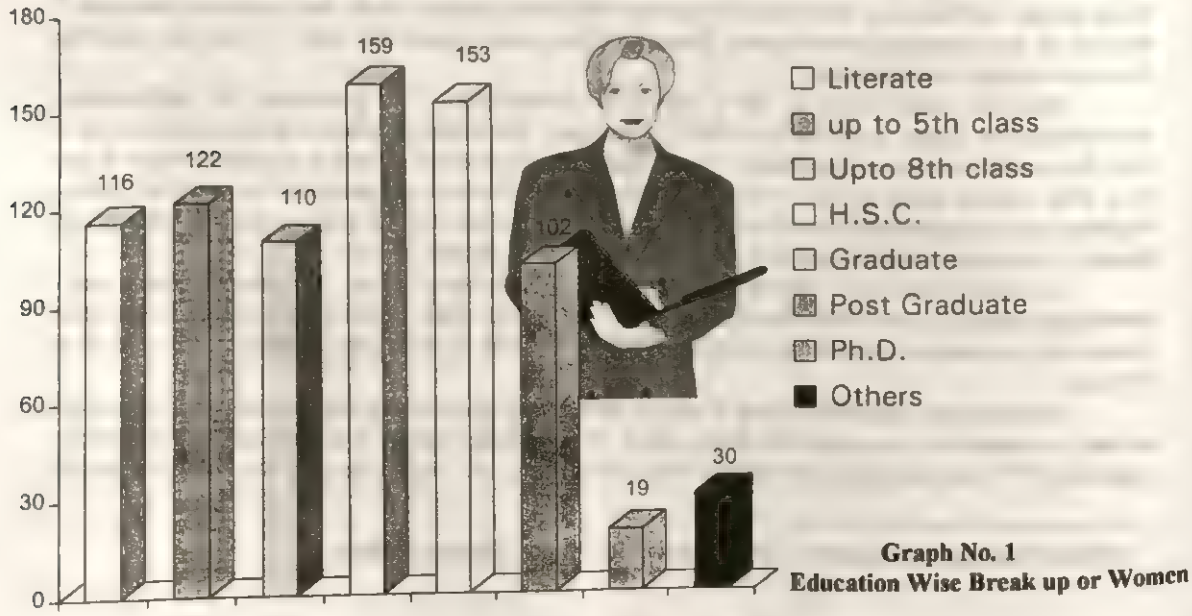
Political alienation is a global phenomenon which is pesvading the political system in every country - be it in USA in the sixties or Italy, Ireland in one eighties. Even it never spared the former communist blocks -- USSR, Hungary, Czekoslovakia, etc. India is not an exception, if we look at the 12 general election held so far. Starting from 1952 to 1996 we find that the number of women voters increased but it was not in proportion to the growing population.

Basically Political alienation is the state of the mind where an individual cuts himself or herself off from the main stream of the political system which eventually damages the root of democracy, makes it unstable and shaky, which is very unfortunate for a nation.

In India women are the most neglected unit -- neglected, abnegate from basic human rights be it education, food, social justic etc. Several World Organisations i.e. WHO, World Bank and National Committees pointed against this apathy, but without any women-backed political machinery, every thing is in vain.

Research Methodology

To measure the impact of alienation on education, a survey was conducted in Ujjain District which is in the heart of the Malwa Region in Madhya Pradesh state. A total of 1520 samples were collected from women of every section of the society - be Hindu, Muslim, Christian, Jain, Sikh or SC/ST and OBC. Out of 1520 samples we got 699 women who are uneducated (46 per cent) and 811 women who are educated (53.35 per cent). The level, wise break up of 811 women's are given in Graph - 1.



Graph No. 1
Education Wise Break up or Women

Alienation was measured in two scales-one in 17 point (feelings) and the other in 9 points scale (work). A total of 102 questions were asked and positive and negative replies were given due weightage (0 for positive and 1 for negative) reply respectively. After collecting the questionnaires weightage frequency were calculated as depicted in Appendices I and II. Then various statistical tools were used like Chi-square test, run test, etc. For this MS-Excel and Basic plus software were used.

Formulation of Hypothesis

To study the topics in depth, a null hypothesis was formulated, subsequently alternative hypothes is were also formulated which are given below:

1. Illiterate women are more alienated than literate women

1A. Educated women are more alienated than illiterate women (alternative hypothesis)

Measurement of Political Alienation

To measure the alienation, two scales mainly feelings and works were made (see appendices I & II). In feelings we have found 61.85 per cent women has political alienation and 38. 15 per cent women do not have political alienation. Whereas in works we have found 69.74 per cent having political alienation and 30.26 per cent without any political alienation.

Table 1 Impact of Education on Political Alienation

Category	Political Alienation		
Educated	**Less**	**More**	**Total**
Illiterate	235	464	699
Literate	341	470	811
Total	576	934	1510

$x^2 = 11.30037$

Conclusion

The value of Chi-square on .05 level is 3.841. Here we get 11.30037 which is greater than the tabulated value. So our hypothesis is accepted and we got that illiterate women are more politically alienated (66.38 per cent) whereas literate women are less politically alienated (57.95 per cent). To study it further in-depth, we also applied the run-test, for this, we have formulated three hypotheses which are as follows :

Table 2 Level of Education and its Impact on Political Alienation

Class	Level of Education	Hypothesis
A	Form class I to V	Less educated women are more politically alienated
B	Class VIII to Graduation	Educated womens are less politically alienated
C	Graduation to Ph. D.	Highly educated women are not politically alienated

Statistical Analysis

	N-1	N-2	'B' Mean	μ 'B'	Σ'B"	Z	Result
AB	348	306	327	326.51	12.724	0.027	Accepted
BC	306	121	213 5	174.424	08.378	4.516	Rejected
CA	121	348	234.5	180.56	08.277	6.516	More Accepted

At. 05 level of the critical value of Z is 1.96

On the basis of the statistical analysis we can draw the following conclusions.

1. Both of less educated and educated women are politically alienated, the degree may vary.
2. Educated women are so busy with the daily work that they are not able to give full attention to politics, hence they are alienated.
3. Highly educated women, though small in numbers are very busy in their daily activities that is professional and domestic chores. Another factor is that higher level of education compel them to think rationally on valueless political system, which ultimately create alienation.

At .05 level the critical value of Z is 1.96

when we put the data in multiple regression equation, we got :

$$Y = a + b_1x_1 + b_2x_2 .... b_nx_n$$

$$Y = 0.82 + 0.903x_1 + 0.633x_2$$

Where principal component is #1

Coefficient of multiple determination $R^2 = 1.00$

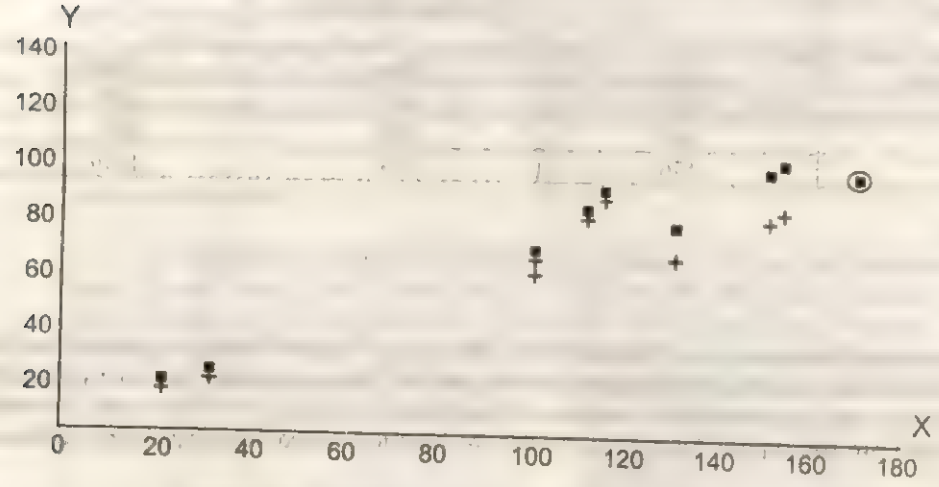
F ratio = % 45488.870)df = 2, 5)

According to specreg value of x_1 and x_2 are 61 and 69 respectively

$$Y = 0.82 + 0.903x61 + 0.633x69$$

$$= 0.82 + 55.08 + 43.67$$

= 99.57 estimated values of alienation.



Graph No. 2

Multiple Regression Analysis on the basis of Women's Education

Suggestions

1. Compulsory free education should be given to all girl children. At least 3 per cent of the total GDP should be spent on women's education so that more and more technical as well as vocational institutions can be established. Moreover, awareness campaigning can be initiated simultaneously.
2. To educate the women, financial help can be given. For the government can issue bonds to tap the resource from the market.
3. For working women' afternoon schools or even colleges can be started proper training facilities should be given.
4. Education should be focused on practical aspects rather than on the theoretical aspects.
5. Meritorious students should be encouraged; hence, fellowship can be given to them.

Finally it can be said that at present we are passing through a very difficult period. If the above suggestions can be fully followed I hope it will usher in a new horizon in women's education in India.

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Appendix I

Political alienation in women weightage scale on the basis of feeling

S.No.	Level of Alienation	Weightage	Frequency	%
1.	Interest in politics	0	86	5.65
2.	Affected from politics	1	31	2.03
3.	Affect to the politics	2	77	5.06
4.	Importance to the political agenda	3	99	6.51
5.	Affected from election	4	114	7.50
6.	Affected the voting	5	84	5.52
7.	Consciousness about politics and government	6	89	5.86
8.	Consciousness about government	7	80	5.26
9.	Consciousness about local problems	8	109	7.71
10.	Affected by the law and order	9	102	6.71
11.	Knowledge about national and international issues	10	112	7.36
12.	Lack of inspiration to know about politics	11	108	7.16
13.	Degradation of moral values	12	88	5.79
14.	Participation in active politics	13	68	4.47
15.	Impact of politics on women	14	78	5.13
16	Giving importance to election mandate	15	100	6 57
		Total	1520	100

Appendix II

Political alienation in Women Weightage Scale on the Basis of Work

S.No.	Level of Alienation	Weightage	Frequency	%
1.	Discuss about the government and politics	0	172	11.31
2.	Voting	1	75	04.94
3.	Enrolling in voter's list	2	146	09.60
4.	Voter identity card	3	67	04.40
5.	To hear the election campaign	4	187	12.30
6.	To participate in voting	5	196	12.89
7.	To discuss about the government	6	112	07.36
8.	To participate actively in politics	7	104	12.36
9.	Membership of political party	8	194	12.11
		Total	1520	100

Universalization of Girls Education : A Pragmatic Eclectic Approach

K. Nirmala[1]

Education of boys is education of one person, but education of a girl is the education of the entire family.

- Jawaharlal Nehru

1 Realizing this statement, since Independence vigorous efforts have been taken in India. We have made considerable progress in providing facilities for girls education.

Education is a measure of a nation's stage of development of the nation in general and its social development in particular. Bold and determined efforts were made to face the difficulty involved in achieving women's education. Education of girls at primary levels has shown a phenomenal development in the post-independence period. The growth in enrolment and physical facilities at the primary stageis the result of concerted government efforts to implement the constitutional goal.

A casual look at the statistics in respect of educational advancement will give a good deal to feel happy about to compared when 191.5 lakhs children in I-V in 1950-51, 884 lakhs children attending the schools in 1991.

This paper discusses and highlights the progress of girls' education, positive approaches and the programmes implemented by Govt. of India, constraints and impediments to overcome the problem of illiteracy among girls, the impact of girls' education on society and a suggested model for the future for achieving the goal of Universalization of Girls' Education.

India has risen to the third place in the world in terms of college enrolment following US and USSR. This is the bright side of Indian education achieved in 50 years of independence. Article 45 of our Constitution, under the Directive Principles of State Policy, reades as follows:

"The state shall endeavour to provide within a period of ten years from the commencement of this Constitution, for free and compulsory education for all children until they complete the age of fourteen years".

Compulsory Education Acts have been passed and enforced in the states. But this Constitutional provision for the Universalization of Primary Education which was to be achieved by 1960, remains unfulfilled till date. To achieve this target, this article gives a practical model.

1.1 Concept of Universalization of Elementary Education (UEE)

The seed for the Universalization of Elementary Education was sown by Gopalakrishna Gokhale in 1912 in the Imperial legislature. Unfortunately the Bill was defeated due to many reasons. The final success in the struggle was achieved only after the attainment of freedom and the concrete evidence of this victory was the insertion of Article 45 in the Constitution. After the formation of our Constitution, in every decade, the education policy framers and the members of the education committee have stressed this concept attainment.

1.2 Concept of Universalization of Girls Education (UGE)

Article 15(1) provides that the state shall not discriminate any citizen on grounds of... sex. Since Independence, constant attention has been paid irrespective of sex, region and religion. The urgent need for Universalization of Girls Education was felt only after the announcement of Women's Decade (1975-1985). Gender disparities are prominent in regard to enrolment and retention. It was noticed that the dropout rate of girls of the primary and upper primary stages are higher than that of boys. These marked disparities made the Govt. identify the priorities relating to the following aspects:

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- girls' access to education
- improved quality
- displacing the constraints of girls' education
- eliminating gender discrimination

The policies and programmes implemented after 1985 began to give special emphasis on the Universalization of Girls' Education. Now, Girls' Education is in the development agenda

1.3 Progress of Girls' Education (1951-1997)

1.3.1 Literacy

In the fifty years of Independence, female literacy rates have shown a substantial increase. Girls' enrolment has grown at the primary stage and upper primary stage. The rate of growth of enrolment of girls has been higher than that of boys in the last decade but disparities still exist. Over the four decades (1951-91) female literacy has, however, gone up five times from 8.86 percentage in 1951 to 39.42 percentage in 1991.

Table 1 : Percentage of Literacy in India

Year	Male	Female	Total
1951	27.16	08 86	18 33
1961	40.40	15.34	28.31
1971	45.95	21.97	34.45
1981	56 37	29.75	43.50
1991	63.86	39.42	52.11

The above table indicates the consistent growth rate of female literacy, at the same time consistent gender disparity exists in literacy level.

1.3.2 Enrolment in Primary Education

Table 2 : Progress of Enrolment at Primary Education by Sex in India from 1950-51 to 1990-91

Year	Boys	Girls	Total
1950-51	13.8	05.4	19.2
1960-61	23.6	11.4	35.0
1970-71	35.7	21.3	57.0
1980-81	44.6	28.1	72.7
1990-91	58.1	41.0	99.1

Table 2 presents a precise picture of the gender gap in education. Girls' enrolment in primary education has increased greatly and consistently. At the primary stage, girls' enrolment has increased eightfold from 5.4 million in 1950-51 to 41.0 million in 1990-91. A substantial increase in school enrolment at the primary level indicates improvement in girls' education which is very significant for their all-round development and it also indicates that we are marching towards the goal of Universalization of Girls Education. Enrolment ratios, i.e. the percentage of enrolment to the total population in the relevant age group have also risen for girls at primary level Though school enrolment ratio's have been rising, high rate of dropouts, particularly of girls' still continues to be a major problem. During 1993-94, more than one third (39%) of the number of girls enrolled at the primary stage dropped out before completing primary level.

1.4 Efforts and Strategies taken by Govt. of India to achieve Universalization of Girls Education in the 50 years (1950-1997)

- Committee on Primary Education
- Committee on Women's Education
- Differentiation of Curricula for boys and girls
- Committee on Girls' Education and Public Cooperation
- National Education Policy
- Early Childhood Care and Education
- Non Formal Education
- Minimum Levels of Learning
- New Education Policy
- Operation Black Board Scheme
- Programme of Mass Orientation of School Teachers
- National Perspective Plan for women
- National Elementary Education Mission
- Total literacy Campaign
- National Council for Teacher Education
- District Primary Education Programme
- Education for All.
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1.4.1 **Committee on Primary Education (CPE-1951)**

On the basis of recommendation of Central Advisory Board of Education on post war educational development,the Ministry of Education appointed this committee, under the Chairmanship of B.G.Kher in order to examine the erstwhile set-up of local administration of education in different states, & the experiments carried out in some of the states. This committee recommended the association of local bodies, creation of education bodies, division of authority, and the responsibility of the Union Govt. to assign specific grants for universal and compulsory primary education in the states.

1.4.2 **Committee on Women's Education (CWE - 1957-59)**

The National Committee on Women's Education was set up under the chairmanship of Durgabai Deshmukh. The main objectives related to UEE are to suggest special measures to make up the leeway in women's education at the primary level, and to examine the problem of wastage in girls' education. The major recommendations of this committee was that the education of women should be regarded as a major and a special problem and the funds required for the purpose should be considered to be the first charge on the sums set aside for the development of education. Concession in kind should be given to all girls, whether from rural or urban areas. Whenever primary education is not free, immediate steps should be taken to make it free. To avoid wastage at primary level, part-time instruction should be made available for those children who can not attend on a whole time basis.

1.4.3 **Differentiation of Curricula for Boys and Girls (DCBG - 1964)**

The Committee headed by Smt. Hansa Mehta reviewed the curricula of school education for boys and girls. This Committee recommended that no differentiation should be made in the curricula for boys and girls at the primary stage. Women should be appointed at all primary schools. The existing gap between the education of boys and girls should be rapidly bridged.

1.1.4 **Committee on Girls' Education and Public Cooperation (CGPEC 1965)**

Popularly known as Bhaktavatsalam Committee, it was appointed in order to look after the causes for lack of public support, particularly in rural areas, for girls' education and to enlist public cooperation. This committee recommended many points to be covered for UEE.

1.4.5 National Education Policy (NEP-1968)

With the recommendation of Kothari Commission (1964-66), the New Education Policy on Education was implemented. This policy recommended that strenuous efforts should be made for the early fulfillment of the Directive Principles under Article 45 of the Constitution seeking to provide free and compulsory education for all children up to the age of 14 years. It also recommended that the education of girls should receive emphasis, not only on grounds of social justice, but also because it accelerates social transformation.

1.4.9 Early Childhood Care and Education (ECCE - 1975)

This was introduced as a feeder and supportive programme for Primary Education. The aim of ECCE was that every child should be assured access to the fulfillment of all basic needs and aimed at the total development of cognitive, conative and affective domains. The ECCE programme also implemented Integrated Child Development Scheme (ICDS), Balwadies, Primary Health Care centres etc. to speed up Universalization of Primary Education.

1.4.7 Non Formal Education (NFE - 1975)

It was being felt that formal educational schools would not help us to achieve our goals of universal education for all. Some agencies beyond the formal ones were required to do the job. Realizing this, non formal education programmes have been started in our country such, as:

- The Adult Functional Literacy Programme
- Non Formal Education Centres for Dropouts
- Correspondence Course
- Open University System
- The Satellite Instructional Television Programme for Children in Primary Schools etc.

The programme had been launched with the Central and State funds in over 135 selected districts during 1975-76. More than 180 voluntary organizations were actively participating in the implementation of various programmes.

1.4.8 Minimum Level of Learning (MLL-1976)

The Minimum Level of Learning strategy is an attempt to combine quality with equity. The objectives of this strategy is to access to provide education irrespective of sex, caste, creed and location. The focus of MLL is development of competency - based teaching and learning. It had been stressed that emphasis should be laid on minimum levels of learning in respect of three subjects namely Language, Mathematics and Environmental Studies. This programme had been initiated throughout the country with the help of voluntary agencies and research institutions.

1.4.9 New Education Policy (NEP - 1986)

The New Education Policy was a landmark in Indian education. It advocated a dual track approach designed to promote simultaneously adult literacy and primary education, with a focus on girls and other disadvantaged groups. It also postulated integration of gender perspectives in all aspects of planning.

1.4.10 Operation Black Board (OBB - 1987)

This scheme was introduced to bring all existing schools in the country to a minimum standard of physical facilities. Under this, each school was provided with at least three large all weather rooms, separate toilet facilities for boys and girls, at least three teachers and essential teaching materials. This scheme has been concentrating on rural areas, SC/ST areas and girls' schools.

1.4.11 Programme of Mass Orientation of School Teachers (PMOST - 1987)

The National Education Policy (1986) felt the need for the training of the teachers for effective implementation of UEE. With a view to improving the quality and competence of teachers, a programme of restructuring and reorganizing of teacher education was launched. Under this programme, 1.8. million teachers were trained during the period 1987-90. The main objective of this programme was to orient primary teachers in the main priorities and directions envisaged in the New Education Policy 1986. District Institutes of Education and Training (DIETs) to train the elementary school teachers and Special Orientation Programme for Primary Teachers (SOPT) are being implemented by this scheme. More than 300 DIETs have already become operational and are conducting training programmes. SOPT is now going on in almost all states and has a target of covering 450,000 primary teachers every year until the end of 1997.

1.4.12 National Perspective Plan for Women (1988)

It is an effort to evaluate the impact of developmental plans and programmes on Indian women. Universalization of Girls' Education has been included as one of the components of the Minimum Needs Programme.

1.4.13 National Elementary Education Mission (NEEM-1995)

To achieve UEE by the year 2000 A.D. a National Elementary Education Mission has been set-up. The aim of this mission is to mobilize all the resources - human, financial and institutional and the partnership with the states, local bodies, teachers and others concerned. This mission ensures free and compulsory education of a satisfactory quality to all children up to 14 years of age by the turn of the century.

1.4.14 Total Literacy Campaign (TLC-1990)

It was organized under the National Literacy Mission with the objectives of area specific, volunteer -- based. cost effective, time-bound and outcome oriented. An evaluation of this campaign by an Expert Task Force has shown that they have successfully promoted social and economic integration. The impact of women's mobilization was found to be at the heart of the success of the campaign.

1.4.15 National Council for Teacher Education (NCTE-1993)

A National Council for Teacher Education was set up to revamp the teacher education programmes and to achieve planned and coordinated development of the entire teacher education system - particularly the primary teacher education - throughout the country. The regulation and proper maintenance of norms and standards in the teacher education system is the responsibility of the National Council for Teacher Education

1.4.16 District Primary Education Programme (DPEP-1995)

This programme aims at achieving the goals of UEE in a replicable, cost-effective and sustainable manner. For the first time, a gender perspective has been incorporated in all aspects of planning and implementation. By this programme, some interventions for girls' education have been initiated, like:

- Alternative Schooling
- Flexible school timings to accommodate girls' needs
- Gender sensitive curricula and textbooks
- Residential schools
- Recruitment of women teachers

- More school buildings with toilets for girls
- Gender sensitization of those teachers of involved in this programme

This programme has been implemented in 42 districts of 7 states which are educationally backward. The overall goals of this programme is the reconstruction of primary education as a whole in the districts instead of piecemeal implementation of the various schemes. The fundamental principle of DPEP is capacity building at all levels to evolve further strategies and it has a well defined gender focus.

1.4.17 Education for All (EFA - 1997)

Education for all has been in sharp focus after the Geneva Conference on Education. The successive meetings in India provided more emphasis to achieve comprehensive objectives of Education for All. It aims at qualitative primary education for all, developing skills, capacities, abilities, competencies and attitudes in all members of society and at providing equal opportunities for learning and achievement for all; it includes all types of learners at all ages, irrespective of socio-economic status.

From the analysis of the above said strategies, no doubt vigorous steps have been taken to achieve Universalization of Girls' Education. But what is lacking is the way of implementation, follow-up and of co-ordination.

1.5 Impact of Education on Society

History has established beyond doubt the crucial role played by human resources in the development of nation. And the development of human resources is the function of education.

- New Education Policy - 1986

Education has to be the main instrument of social change and it must give directions to these changes. Education of women stamps some impact on society and there is worldwide evidence of this. The following are some of the significant changes in our society due to the advancement of women's education in 50 years.

- Age at marriage
- Lower fertility
- Reduction of infant and child mortality
- Increased contraceptive usage
- Greater participation in organized and unorganized sector
- Increased political awareness and participation
- Awareness of legal rights.

1.5.1 Age at Marriage

Traditionally, attainment of puberty has played an important role in determining the age of marriage for girls. But this trend has been changed at present. The mean age at marriage for females which was around 15.3 at the beginning of 1950 rose to 19.1 in 1991. The mean age at effective marriage of females was 19.5 in the year 1992. This is on important social impact which helps our national goal of population control.

1.5.2 Lower Fertility

The age specific fertility rates declined for women in all age groups between 1981 and 1991. The total fertility rate declined from 4.5 births in 1981 to 3.6 in 1991.

1.5.3 Reduction of Infant and Child Mortality

A significant decline may be noticed in the mortality rates among female children in the age 0-4 years, from 55.1 in 1970 to 28.2 in 1992. The overall death rate of girls has also declined from 15.6 to 9.7 in 1991 and the death rate of overall population 9.3 in 1993. Though these achievements in female

health and mortality are due to efforts of health care programmes, the simultaneous impact is due to the spread of education

1.5.4 Increased Contraceptive Usage

The National Family Planning Programme was launched in 1951 with the objective of reducing the birth rate to the extent necessary to stabilize the population at a level consistent with the requirement of the national economy and improving the health status of women. Education has been used as an indirect tool to control population of the nation by Family Planning Association of India. Education for dealing with social questions such as raising the age of marriage, gender discrimination and promoting schooling of all children have been included by the Family Planning Association of India which is working in over 3000 educational institutions. The empirical data collected in two national sample surveys conducted by the operations Research Group in 1970 and 1980 revealed the significant relationship between the net effect of Education and the contraceptive usage or the demand for children.

1.5.5 Greater Participation in Organized and Unorganized Sector

Women contribution greatly to the economic growth. Women's Participation in the public and private sector has revealed the significant increase from 1.9 million in 1971 to 4.0 million in 1983.

1.5.6 Increased Political awareness and Participation

The committee on the status of women in India received women's role and status in the political processes since Independence. The committee observed that all the indicators of participation, attitudes and impact came up with the same results; the evolution in social and political status of women for which constitutional equality was to be the only means, still remains a very distant objective. From the sources of history of freedom struggle. Women entered the political arena with the clarion call of Mahatma Gandhi. But later, in 1950 to 1970 due to social stigma, there was a greater gap in this field. Now, the picture is being changed due to many factors especially implementation of Panchayat the Raj.

1.5.7 Awareness of Legal Rights

Legal literacy has been imparted through several strategies. Legal information has been given to women by the curricula of literacy programmes for various grassroot functionaries and the text books of primary education curriculum. These efforts are now being taken up on a large scale. Through mass media, Functional literacy Programmes impart legal knowledge to the masses.

The above are some of the positive social changes in our society. All the strategies carried out by Govt. of India not only contribute to womenfolk but to the entire society. So the general conclusion is best expressed by Sivard What is good for women is also good for the society at large.

Main Constraints and Impediments to achieve UGC :

- Cultural taboos and social inhibitions
- Economic backwardness of the parents
- Looking after the siblings and household work
- Dropout, wastage and stagnation
- Over-population
- Poor nutrition of children
- Absence of schooling facilities
- Lack of awareness of available facilities
- Poor hostel facilities
- Lack of Transport facilities
- Child Labour
- Secondary and conservative attitude towards girls' education
- Defective curriculum

- Problem of insecurity and molestation
- Prevalence of practice of Dowry
- Low educational status of parents
- Failure to enforce compulsory attendance
- Non-availability of school within the walking distance
- Lack of women teachers
- Transfer of efficient teachers
- Uneven spread of education
- Early marriages
- Meager financial outlay
- Misutilization of financial assistance
- Rigidity in schooling hours
- Lack of evaluation
- The feeling that educated girls would be less amenable to family discipline.
- The feeling that education for girls is not necessary to run a home

1.7 Universalization of Girls' Education - A Pragmatic Eclectic Approach

1.7.0 *If you plan for a year plant grain,*
If you plan for ten years plant trees and
If you plan for a hundred years plant human being
Chinese Proverb

Education and society should be inter-linked. The prime objective of this approach is to evolve a composite plan of action for facilitating the achievement universalization of girls' education. It is an inevitable mission. The special feature of this model is a partnership of all responsible and committed citizens, with human resource as the investment. One of the fundamental assumptions of our Democracy is the fraternity and mutual consent for the promotion of common cause- eradication of illiteracy We should make it into a readity.

Our predecessors spent and sacrificed their whole life for the sake of country. They worked for their successors. Remembering them, on this 50th year of Independence, we should spent at least 3 years to erase the mark of illiteracy the map of India. What is needed for this approach is sincerity, dedication and by all people of all ages and varied socio-economic groups, in fact every citizen of this society. Hitherto, we have been enjoying the fruits and rights of our democracy, forgetting the social responsibility. Every educated man and women must join in this venture to pull every illiterate out of the abyss of illiteracy. The nature of work and time are not bound by any rules or restrictions.

1.7.1 Teachers

Shri P.R. Dasgupta, Secretary, Ministry of Human Resource Development, Govt of India in his presidential address of E-9 Meet (Feb.1997) said "the teachers' role in Education for All has also to be that of a facilitator as well as a counsellor of students who are like raw diamonds need to be chiseled and polished to foster in them excellence of human qualities."

Teachers should be involved intimately in educational planning and development. There should be commitment, hard work and a missionary zeal among teachers. More number of women teachers may be recruited, with 100% women teachers at primary level. The teachers of all levels and institutions may be involved in this task. The Govt. may enforce, that, for initial increment, the teacher should educate at least two illiterates. This ranges from primary teachers to the university teachers. This commitment is suggested in addition to their involvement in planning, teaching of formal course, curriculum framing and other educational participation.

E-9 experiences (1997) reveals that there is an association between pupil-teacher ratio and failure of education for all. So, in order to enhance the enrolment, and retention, and reduce dropout rate the pupil-teacher ratio may be reduced.

1.7.2 Parents

Home is the eternal school of life. The child gets its experiences - affectional, social, economic, educational, religious, cultural and recreational - from the managers of home, the parents. A linkage between schools and the family may be established. Participation of parents in the educational programmes may also be encouraged. Awareness and interest regarding the utility of girls education may be created among the parents. Like Britain, Bangladesh and Mexico, the key words like participation, collaboration and partnership which recognize the interdependence of parents and teachers may be strengthened and the parents may be involved in all open discussions. This will reduce the rate of drop-out, wastage, and stagnation among girls. The parents, who are economically and socially backward, may be given incentives if they are ready to send their girls to school and this incentive may be in cash which will be deposited in the name of the girl child for further higher education. Parents may be motivated by organizing awareness campaigns by teachers, Govt. machineries, non-Govt. organizations, members of social institutions and members of the Panchayat Raj. Unless the parents are motivated, the target of achieving Universalization of Girls Education is difficult.

1.7.3 Students

Nowadays the only concern of students is to pass their examination and to obtain the passport for a job. To get the passport, the Govt. spends much money for each student according to the nature of the coursehe pursues. So it is the urgent duty and responsibility of Govt. to enhance the social values and social commitment among students. Moreover, our students are committed. They are capable of making a constructive and creative contribution for promoting national development and welfare. The teachers and the parents should channelise their potentialities towards this direction. We have to make them realize that they are studying out of other fellow beings pocket. So it is a prime duty of the student community to spend some time during their course for their sisters and brothers. The state government, University Grants Commission, and other authorities should add tothe entry qualifications that for any course two illiterates the candidate must have made literates during their course of study and only after getting the work done certificate from the head of the institutions, her/his result will be published. This should be made compulsory for passing the examination. No student should be exempted from the venture. This includes all types of students, college (general), Agriculture, Medicine, Engineering, other professional and para-professional students. The focus of attention of NSS and NCC programmes must be the literacy for 10 years. This is just like each one teach one programme. But the difference lies this being copulsory, rather than voluntary. This determined and sustained effort will definitely reduce the problem of illiteracy.

1.7.4 Non Student Youth

All non-student youth - unemployed and under-employed - should be utilized for this venture. Like Nehru Yuvak Kendras and women's organizations, a programme for establishing a network of non-student youth centres could be established. These non-student centres will carry out the literacy programmes in rural areas. Ministry of Human Resource Development should give financial aid to these non student youth centres. There would not be any formal structure of teaching learning process, by time bound, and not following specified curriculum pattern. Education will be imparted by the non student youth according to the interest, nature, and need of the learners. The prime motive should be imparting the 3Rs.

1.7.5 Members of Government

Members of the Government include both white collared and blue collared jobs - bottom to top - who gets the government salary. The work of making two literates is common to all and it should be made compulsory for the next subsequent promotion. But other nature of work regarding literacy will differ from person to person, department to department, cadre to cadre. There should be a definite co-

ordination among the departments, regarding planning, organizing, monitoring and evaluation of literacy programmes. For instance, Ministry of Health and Welfare and Child Care can be coordinated with Ministry of Human Resource Development. So there must be multiple linkages among the machineries of the Govt. To ensure the active and real participation of this model, the Govt. should enact laws, ignoring the democratic principles.

1.7.6 Members of Non-Government Organization

Various Non-Governmental agencies should be engaged in promoting girls' literacy, in their own respective ways, but the focus should be on literacy. We should consider the possibility of utilizing the services of the civil defence personnel, scouts, and guides and other appropriate organizations in programmes of literacy. Their service can be utilized for taking survey, conducting awareness camps, creating motivation among girls and parents, and evaluation and follow-up actions.

1.7.7 Members of the Social Institutions

This includes the church, play groups, youth clubs, community halls, religious organization, recreation centres, press, radio, television, theater, social welfare centres like Mahila Mandals, Lions Club and Rotary Clubs, community sangams and sports organizations. These social agencies should come forward to join this venture. They should render their services in different and possible ways They should give priority or the full time involvement in this mission. Of all the partners of this approach, the members of the social institutions are more influential and effective in approaching the people. For example, a priest can motivate the girl child to study while preaching the religious doctrine.

1.7.8 Politicians

Politicians can play a vital part in this programme. Each M.P. and M.L.A. may adopt at least one village from his constituency and make all the necessary arrangements such as, school building, establishing centres or places for the literacy programmes for dropouts and non starters, funding, making the educated party people teach the non educated party people, checking or enforcing compulsory attendance, follow-up of monetary benefits, taking care of the utilization of financial assistance, and so on. The Panchayat members must be involved in this programme and should realize their responsibilities. Like other Govt. officials, each Panchayat member should educate at least two girl children during theis tenure..

Thus, in this comprehensive approach all types of people from all sections of the society are involved. Each section has its own responsibility as mentioned above. The approach will be coordinated by a network consisting of the members from all the 8 categories. All will be involved in planning, organizing, monitoring and evaluation. But the task should be asimultaneous one.

With this pragmatic eclectic approach, we can achieve the goal of Universal Elementary Education (UEE) specially the education of girls, by the turn of this century.

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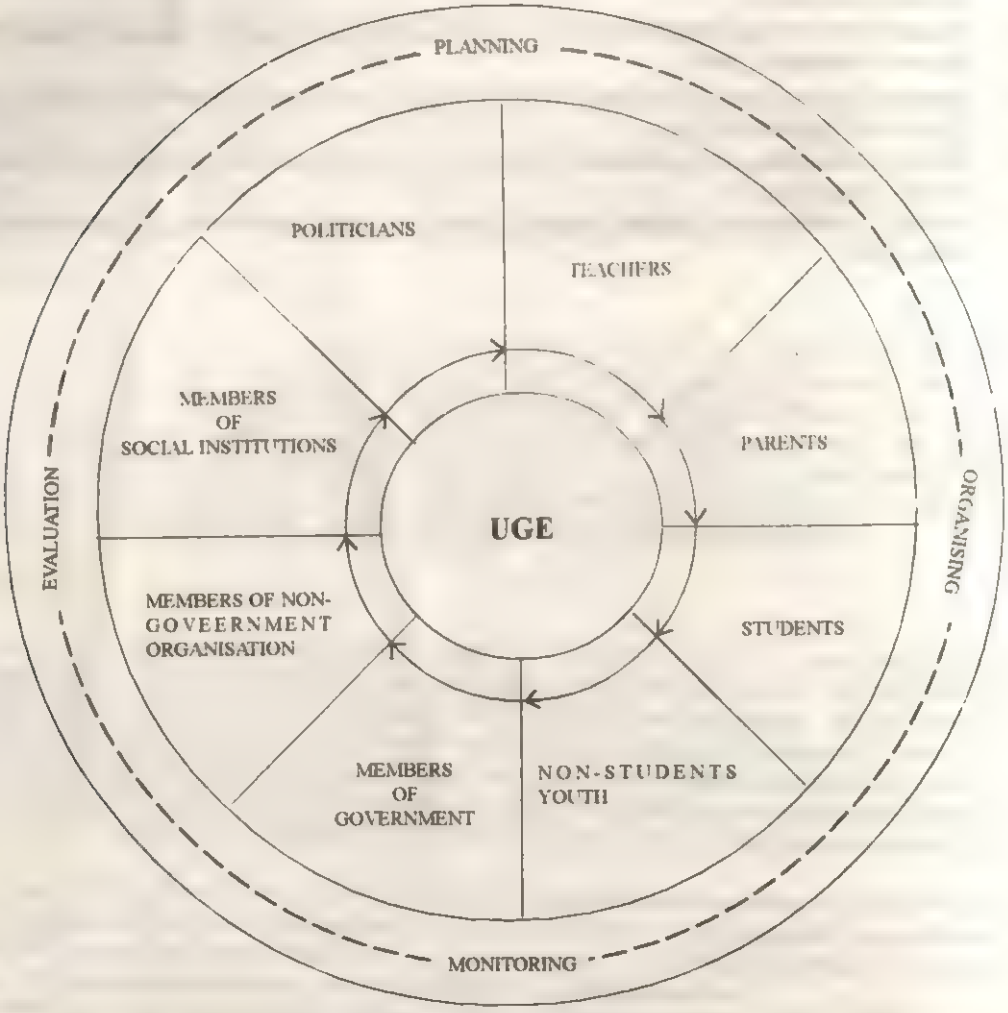
Universalization of Girls Education - A Pragmatic Eclectic Model (Diagram)



Prioritized Groups' Education : Issues and Challenges of Globalization

G.J. Rawal[1]
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Introduction

Economic, social, political and technological changes are so fast that they allow no time to people to respond in an appropriate way to surrounding changes. This is alsodue to limitations of our present educational system to bring out desired value based attributes and also due to varieties of non-integrated forms of education that prevail at present. In the present century Science and Technology have increased human comforts. Hardship and lack of comforts do teach important lessons to learners which are missing now. This fact has remained quite unnoticed and therefore the remedial education system could not be visualized and designed.

A need is felt now to redefine objectives of our education in present context. One of the objectives of education has remained to earn bread and butter but this cannot be the only one. Second objective undoubtedly is to live life joyfully and meaningfully. We suggest that the job and educational credentials be delinked with real performances. This change will make people study for what they are most suitable and capable. Such study through relevant education will be definitely more effective, more efficient, highly interesting and long lasting. And people now will be willing to spend their own pocket money for such interesting, self-satisfying and self-supported education. They will financially depend less on government funds. Education thus conceived will be with higher values and hence let us call it Value Based Education.

1. Drawbacks of Present Education System

a) The present education system has deteriorated relations between individual learner i.e., self and society. In other words there is no balance between benefits to a self and that to a society. As such neither one is benefited and the nation is deprived of, improving productivity through the great potentially of enlightened manpower.
b) At present government alone is responsible for education but with increased population, approaches like non formal modes of education will have to be entertained.
c) Education now is arresting the development of natural gifts of individual learner.
d) Education has failed to arouse interest for life long learning. As such learning process ends with formal education.
e) The education given now lacks critical search for absolute truths and creative and constructive energies.
f) Present education is creating a flow of people from the rural to the urban areas.
g) Education is not stress free.
h) The present education has generated large scale unemployment. It violates the principle of Right job for a person and Right person for a job.

2. Concept of Prioritized Group

The group able to meet the whole expenditure of education is our Prioritized Group. The education of such group will put no financial burden on government and hence there should not be any

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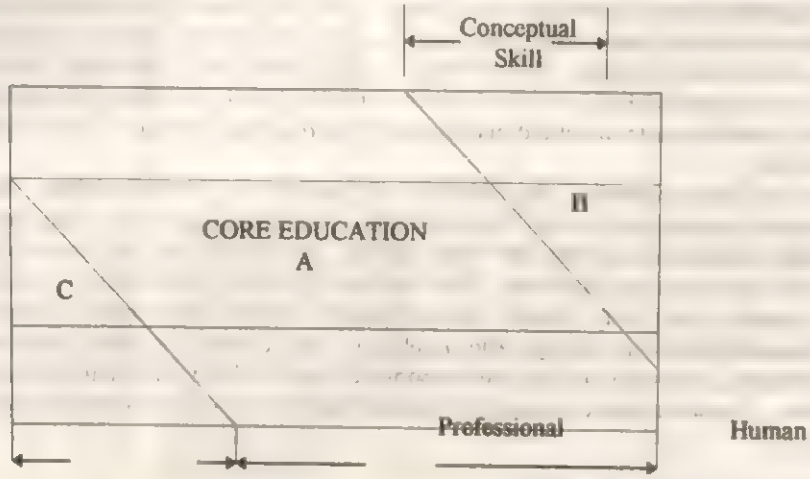
limit as regards entry and disciplines. Also there should not be any age bar. The government has to give an enormous publicity to such a scheme of education namely V.B.E. People and organizations are to be encouraged to come forward to take in their hands this education. Some incentives to accelerate the efforts should also be devised in this field.

3. Two Categories of Education

The classification of whole education can be made in two categories, namely core education and prioritized education The core education is to be common for all and concern for development of Human Skills to the value of 85% of total education content and rest 15% for skill education, value development for specific profession under view in individual learner.



A = 85% of Total Education
B+C = 15% of Total Education

Core education should teach how to behave when he is alone and when he is in group both likeable or unlikeable. It should enable learner to learn effortlessly and here individual personality traits on hand have to be given weightage. It will add to what is already there in learner. This learning with huge improvements will add to improved existing perceptions, beliefs and local truths and enable learner to go over gradual change. On the other hand professional skill education and conceptual skill education should satisfy local needs of society and industry. Various human skills can be outlined as below:-

Human Skills A1 Personal Values:
Such as, Ambition, Cleanliness, Contentment, Courage, Creativity, Determination, Dignity of labour, Diligence, Discernment, Excellence, Honesty, Hope, Maturity, Regularity & Punctuality, Self-confidence, Self-motivation, Simplicity.

A2 Social Values:
Such as, Accountability, Brotherhood, Concern for Environment, Courtesy, Dialogue, Dutyfulness, Forgiveness, Freedom, Friendship, Gratitude, Hospitality, Justice, Love, Magnanimity, Patience, Repentance, Responsibility, Service, Sharing, Sportsmanship, Sympathy, Team Spirit, Tolerance.

A3 Spiritual Values:
Such as, Detachment, Faith, Loyalty, Non violence, Obedience, Prayer, Purity, Renunciation, Truthfulness, Behaviour, Conduct, Tact, Delicacy, Independence of Character, Personal habits.

4. Conclusions

While leaping forward to 20th century, India has maintained the growth of GDP as well as industrialization to 7% and still targeting the similar figures for coming years. Growth of agriculture was also forecasted to 3%. With the development and growth of industrialization and agricultural progress there is a shift of preference for a vision built V.B.E. for more than 140 million students, particularly the 6 millions students of higher education. This has attracted the foreign universities from USA, UK, Canada, Australia and other countries. Due to inadequate financial resources with the government the scope of private participation is widening in Indian Educational Field. A potential market for international education and training institutions may fetch tremendous global business opportunities. The whole essence of this paper can be summarized as follows:-

1. All people are equal socially and politically but they differ largely in their capacity and innate qualities and V.B.E. will offer global welfare through the benefit to society and industry. 15% of total education comprising professional and conceptual skills, should be handled by Ministry of Commerce and Industry and not by Ministry of Education.
2. 85% of total education comprising human skills should be taken care by Ministry of Education.
3. Role of government is to give proper marketing by huge publicity for encouraging people/organization to take initiative to develop novel concept of V.B.E.
4. People having V.B.E. will help to generate more revenue for himself and nation as well.
5. Human skill value identify will bring more persons to have intensive satisfaction.
6. The satisfied people will deliver any sort of work or service with very high degree of excellence.
7. The people having V.B.E. will deliver Qualitative goods/services, Complete picture, Defectless products/services, Accurate predictions, Clean environment, Effective methods, Economic process, Orderly arrangement, Appropriate measures, Simple solutions, Timely actions, Reliable equipment, Brief interactions, Meaningful communication, Informative data, Awareness, Concentrated energy, and Clear instructions which are some examples of Excellence.
8. V.B.E. will fetch right job to a person and right person to a job.
9. It will help to establish harmony with nature and the universe reducing environmental pollution and will develop fortitude in people to withstand any calamity of life, society and nation through core education.
10. Core education is common and compulsory for all people and concerns development of human skills.
11. Rest 15% of total education concerning professional and conceptual skills, is to satisfy local needs of society, industry and individual.
12. V.B.E. will bring in worth in people when individual is alone and when he is with others.
13. Such education is effortless and develops learner with what is already there in him.
14. This education does not neglect huge energies of perceptions, beliefs and local truths and same is used creatively by providing human skills, communication skills and technical skills to cater to all three levels of management-low, medium and top level.

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Development of Girls' Education in Gujarat State (India)

Pravina V. Budhdev[1]

Introduction

As the Indian history goes, in the ancient times women enjoyed a very high status in the society. she was not only at par with men but at times also excelled in social, religious and educational fields. This is evident from an illustration of Vidushi (learned) Gargi. She defeated the "great Shankaracharya" in Vedantic discussions. Thus, women were in real sense considered to be better half of the society.

With the advent of Non-Aryans in India, the societal status of women declined to such an extent that she could be bought and sold like property. Her physical movements were restrained and confined to the four walls of the house. Women's education therefore suffered a serious setback. Women was not supposed to get education.

In the pre-independence period the different states of India were ruled by different royal families and there were a great diversity in education policies.

After independence, in 1948, the states were merged under a single umbrella of Central Government & on geographical basis states were formed. Gujarat initially was a part of the Bilingual Bombay state and came into existence as a separate state in 1960. After independence an uniform education policy was formulated. For a healthy state, importance of education and especially women's education was realized. Vigourous attempts were made to develop girls' education. After the existence of separate Gujarat State, figures in education at different levels are available. it is the researcher's effort to study the development of girls' education at all the educational levels after existence of Gujarat State.

Objectives

1. To study the development of girls' education at primary level.
2. To study the development of girls' education at secondary level.
3. To study the development of girls' education at higher secondary level.
4. To study the development of girls' academic achievement in Higher Secondary Board Examination.
5. To study the development of girls' education at higher education (graduate) level.
6. To study the development of girls' education at graduation level.

To fulfill the objectives, data were collected from Administrative offices (for primary level), District Education offices (for secondary and higher secondary level) and from Universities (for higher educational level). Data were also collected from Office of Higher Education Commissioner, Gandhinagar. Some data were collected from the booklets of "Educational Statistics Information" of different years.

To analyze the data of girls with boys, percentage was calculated. Information were also compared with previous years' data with the help of percentage.

Development of Girls' Education at Primary Level

After 1948, Government had decided to make primary education compulsory. In spite of this decision, no serious efforts were made to implement it. From 1956, the Second Five Year Plan began in India. During this period Gujarat State came into existence i.e. in 1960. From 1960 onwards, number of primary schools and number of students (boys and girls) in Gujarat State are shown in Table-1.

It can be observed from Table-1 that more number of schools were opened and the number of students have also increased. From 1960-61 to 1995-96 1.79 times primary schools have opened while students have increased 3.27 times. From these figures it can be said that during that period number of students would be increased in each class.

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From 1960-61 to 1995-96 number of girls have increased 3 94 times as compared to 2.90 times number of boys. From this figure it is clear that development in girls' education is more than that in boys. Percentage of boys and girls in 1960-61, were 64.97 and 35.03, while percentage of boys and girls in 1995-96 became 57.75 and 42.25.

One noticeable thing is that the ratio of boys and girls are the same from 1985-86 to 1995-96. It can be said that development in girls' education has became stagnant in the last ten years. It can be clearly seen from graph-1. Graph-1 shows the comparison between percentage of girls and boys from 1960-61 to 1995-96. Development of girls' education is clearly seen from graph-1, and stagnation in development is also traced out.

Development of Girls' Education at Secondary Level

After 1976-77 government has changed its education pattern. The old pattern of 7 (primary) + 4 (secondary) + 4 (higher education) was converted to the new pattern of 7 (primary) + 3 (secondary) + 2 (higher secondary) + 3 (higher education). Due to new pattern, some secondary schools were converted in to higher secondary schools and grade XII was opened in schools and one class was closed in colleges. Hence from 1976-77 number of students have increased in higher secondary stage.

The number of secondary schools and students prior to new educational pattern i.e. introduced after 1976, are shown in Table-2.

Table 1 : Number of Primary Schools and Number of Students Therein

Year	No. of Schools	Students		
		Boys	Girls	Total
1960-61	18902	1460015	787098	2247113
		64.97%	35.03%	100%
1965-66	20242	1893562	1077050	2970612
		63.74%	36.02%	100%
1970-71	21355	2270302	1334365	3604967
		62.80%	37.20%	100%
1975-76	22330	2620719	1637426	4258145
		61.44%	38 56%	100%
1980-81	25076	3047591	2060930	5108521
		59.65%	40.35%	100%
1985-86	27765	3488301	2546312	6034613
		57 80%	42 20%	100%
1990-91	31279	4025899	2963606	6989505
		57.60%	42.40%	100%
1991-92	31782	4107542	3013940	7121482
		57 68%	42.32%	100%
1992-93	32227	4180726	3067641	7248367
		57.68%	42.32%	100%
1993-94	32952	4300600	3165824	7466424
		57.60%	42.40%	100%
1994-95	33119	4222407	3081748	7304157
		57.81%	42.19%	100%
1995-96	33822	4239409	3101671	7341080
		57.75%	42.25%	100%

Table 2 : Number of Secondary Schools and Number of Students Therein

Year	No. of Schools	Students		
		Boys	Girls	Total
1960-61	1099	272495 74.69%	98358 25.31%	364853 100%
1965-66	1590	425425 70.68%	177303 29.42%	602758 100%
1970-71	2263	529487 67.38%	256378 32.62%	785865 100%
1975-76	2672	636758 65.96%	328543 34.04%	965301 100%

It is traced out from Table-2 that number of girls have increased from 1960-61 to 1975-76, but it is also true that percentage of girls is still less than that of boys.

It can be clearly seen from graph-2.

Graph-2 shows the development of girls' education at secondary level compared to boys, from 1960-61 to 1975-76.

Development of Girls' Education at Higher Secondary Level

After the new education pattern in 1976-77, some secondary schools started higher secondary classes while others refrained from it. Due to this pattern, the number of students in the school increased while in colleges it decreased.

Further in 1977-78, the Government went a step ahead and declared free education at this level. This gave a further boost to girls' educational development at this level.

Number of secondary and higher secondary schools, and the number of students therein are shown in Table-3. To know the development of girls' education percentage of boys and girls to total number of students are also shown in Table 3.

Table 3 : Number of Secondary and Higher Secondary Schools and Number of Students

Year	No. of Schools	Students		
		Boys	Girls	Total
1976-77	2753	578787 66.35%	293578 33.65%	872365 100%
1980-81	3153	670959 65.34%	355946 34.66%	1026905 100%
1985-86	4297	808862 64.28%	449459 35.72%	1258341 100%
1990-91	5122	1026971 62.15%	625314 37.85%	1652285 100%
1991-92	5384	1037773 61.01%	686201 38.99%	1759974 100%
1992-93	5480	1171042 61.12%	744820 38.88%	1915862 100%
1993-94	5547	1179765 60.75%	762130 39.25%	1941895 100%
1994-95	5622	1156076 59.64%	782333 40.36%	1938409 100%
1995-96	5738	1148392 59.65%	776691 4.35%	1925083 100%

From Table-3 it can be said that from 1976-77 to 1995-96 more schools have opened and the number of students have stet increased. From 1976-77 to 1995-96, 2.08 times more number of schools have opened, while students have increase 2.21 times more.

From 1976-77 to 1995-96 number of girls have increased 2.65 times while number of boys have increased 1.98 times. From these figures it is clear that progress in development of girls is more than development of boys.

In the year 1976-77 percentage of boys and girls in education is more but it cannot be denied that more efforts are required to increase education in girls. Stagnation in development of girls' education in last five years can be seen.

Development of girls education at secondary and higher secondary level can be clearly seen from graph-3.

Graph-3 shows the development of girls' education at secondary and higher secondary level, from 1976-77 to 1995-96. Increase in percentage of girls can be clearly seen from Graph-3 and stagnation also can be traced out.

Academic Achievement of Girls in Higher Secondary Examination

Earlier we have discussed development of girls education at different level. This comparison was done only through number of girls with number of boys. Academic achievement of girls compared to that of boys should also be taken notice of.

Table 4 : Number of Boys and Girls Appeared and Passed in Science Stream and General Stream in Higher Secondary Examination

Year		Science Stream		General Stream		Total	
		Boys	Girls	Boys	Girls	Boys	Girls
M-86	Appeared	28150	7301	55958	36443	84108	43744
	Passed	9525	3169	25454	23678	34950	26856
	%	33.84	43.40	50.85	65.00	41.55	61.39
M-90	Appeared	30542	8348	102010	68562	132552	76910
	Passed	9428	3425	56674	47119	66102	50544
	%	31.30	41.03	55.56	68.72	49.87	65.72
M-91	Appeared	30546	8941	103789	67699	134335	76640
	Passed	9442	3590	53386	45013	62826	48603
	%	30.91	40.15	51.44	66.49	46.77	63.42
M-92	Appeared	30520	8639	108087	71507	138607	80146
	Passed	15070	5285	77175	59685	92245	64970
	%	49.38	61.18	71.40	83.47	66.55	81.06
M-93	Appeared	27638	8321	110120	77127	137758	85448
	Passed	10347	4203	73675	62327	84022	66530
	%	37.44	50.51	66.90	80.81	60.99	77.86
M-94	Appeared	31090	9694	114954	85753	146044	95397
	Passed	12424	4998	73858	66093	86282	71091
	%	39.96	51.56	64.25	77.07	59.08	74.52
M-95	Appeared	33492	11103	107331	78724	140823	89827
	Passed	15487	6328	78726	65642	94213	71970
	%	46.24	56.99	73.35	83.38	66.90	80.12

Number of boys and girls, appeared and passed in Science and General stream are shown in Table-4. Pass percentage of boys and girls according to their appeared number are also seen in table 4.

From Table-4 it can be read that the percentage of girls passed as compared to boys in the context of appeared, is more, though less number of girls have appeared than their counterpart. Girls' academic achievement is more since 1960.

This conclusion is valid for Science stream, General stream and for total number of boys and girls also. Comparison of academic achievement in total of boys and girls are shown in Graph-4. (page 344).

From the Graph-4 it can be said that percentage of academic achievement of girls is more than that of boys, since 1960 to 1995.

Development of Girls at Higher Education Level

It was believed that higher education should not be for all, it should be for high academic achievers. Any one who wants to join a profession, will join that type of courses after grade X or grade XII. But it has not happened, and now belief has changed. College education became an education for general students.

In 1984, the Government declared free education for girls at higher education level. Hence girls can take free education from cradle to higher level. This gave more impetus to girls' education.

As per the demand of society, more and more colleges have opened. Number of universities, colleges and number of students therein are shown in Table-5. It is shown from 1960-61 to 1995-96. Number of students studying in universities and in different faculties are shown in Table-6.

It can be seen from Table-5 that in 1960-61, out of total students in higher education, 85.43% were boys and 14.57% were girls. Progress in development in girls' education at higher education level can also be seen. In 1995-96, out of total students, 56.05% were boys and 43.95% were girls. It proves the increase in number of girls at higher education level. The result of 'free education of girls' can be noticed after 1985-86. This result can clearly be seen in Graph-5 (page 345).

From Table-6, in 1960-61, it can be said that comparatively more girls had taken advantages in education. After that it can be traced out that there is no remarkable difference in any of the faculties.

From graph - 5 it can be seen, progress of education at higher education level in girls compared to boys.

Table 5 : Number of University, Colleges and Students Therein

Year	No. of University	No. of Colleges	Boys	Girls	Total
1960-61	4	79	32742	5585	38327
			85.43	14.57	100%
1965-66	4	152	61840	19043	80883
			76.46	23.54	100%
1970-71	6	241	10058	36878	137465
			73.17	26.83	100%
1975-76	6	286	163691	64212	227903
			71.82	28.18	100%
1980-81	7	280	108591	52263	160854
			67.51	32.49	100%
1985-86	7	288	132399	76771	20917.
			63.27	36.73	100%
1990-91	8	347	182433	128976	311409
			58.58	41.42	100%
1991-92	8	383	202073	143012	345080
			58.46	41.44	100%
1992-93	8	394	229595	162631	392226
			58.54	41.46	100%
1993-94	8	410	229183	171178	400361

			57.24	42.76	100%
1994-95	8	-	231601	178312	409913
			56.50	43.50	100%
1995-96	8	-	229833	180217	410050
			56.05	43.95	100%

Development of Girls' Education at Post Graduate Level

Post graduate level is the highest level of education and very few students take advantage of it. All universities and very few colleges offer post graduate courses.

Number of students at post graduate level are shown in Table-6. Percentage of boys and girls are also shown in the table.

Table 6 indicates the development of girls' education at post-graduate level. Ratio of number of boys/girls was 61/39 in the year 1989-90. While in 1995-96 ratio of number of boys and girls was 55:45. It means percentage of girls at post-graduate level has also increased.

This also can be traced out from Graph-6.

Graph 6 indicates development of girls education at post-graduate level.

Conclusions

1. Education in girls is developed at primary level. In the year 1960-61, percentage of boys and girls were 64.96 and 35.03% respectively. In the year 1995-96, it became 57.75 and 42.25 respectively.
2. Education in girls is developed at secondary and higher secondary level. In the year 1976-77, percentage of boys and girls were 66.35 and 33.65 respectively. In the year 1995-96, it became 59.65 and 40.35 respectively.
3. Academic achievement of girls was more than boys in higher secondary examination, though less number of girls appeared.
4. Education in girls is developed at higher level. In the year 1960-61, percentage of boys and of education girls were 85.43 and 14.57 respectively. In the year 1995-96, it became 56.05 and 43.95 respectively.
5. Education in girls is developed at post-graduate level. In the year 1989-90, percentage of boys and girls were 60.55 and 39.45 respectively. In the year 1995-96, it became 54.81 and 45.10 respectively.

Table 6 : Number of Students at Post Graduate

Year	Boys	Girls	Total
1989-90	11710	7630	19340
	60.55	39.45	100%
1990-91	12971	9876	22831
	56.81	43.19	100%
1991-92	15070	11278	26348
	57.20	42.80	100%
1992-93	16186	11860	28046
	57.71	42.29	100%
1993-94	16414	12750	29164
	56.28	43.72	100%
1994-95	16658	13293	29951
	55.62	44.38	100%
1995-96	16922	14010	31002
	54.81	45.19	100%

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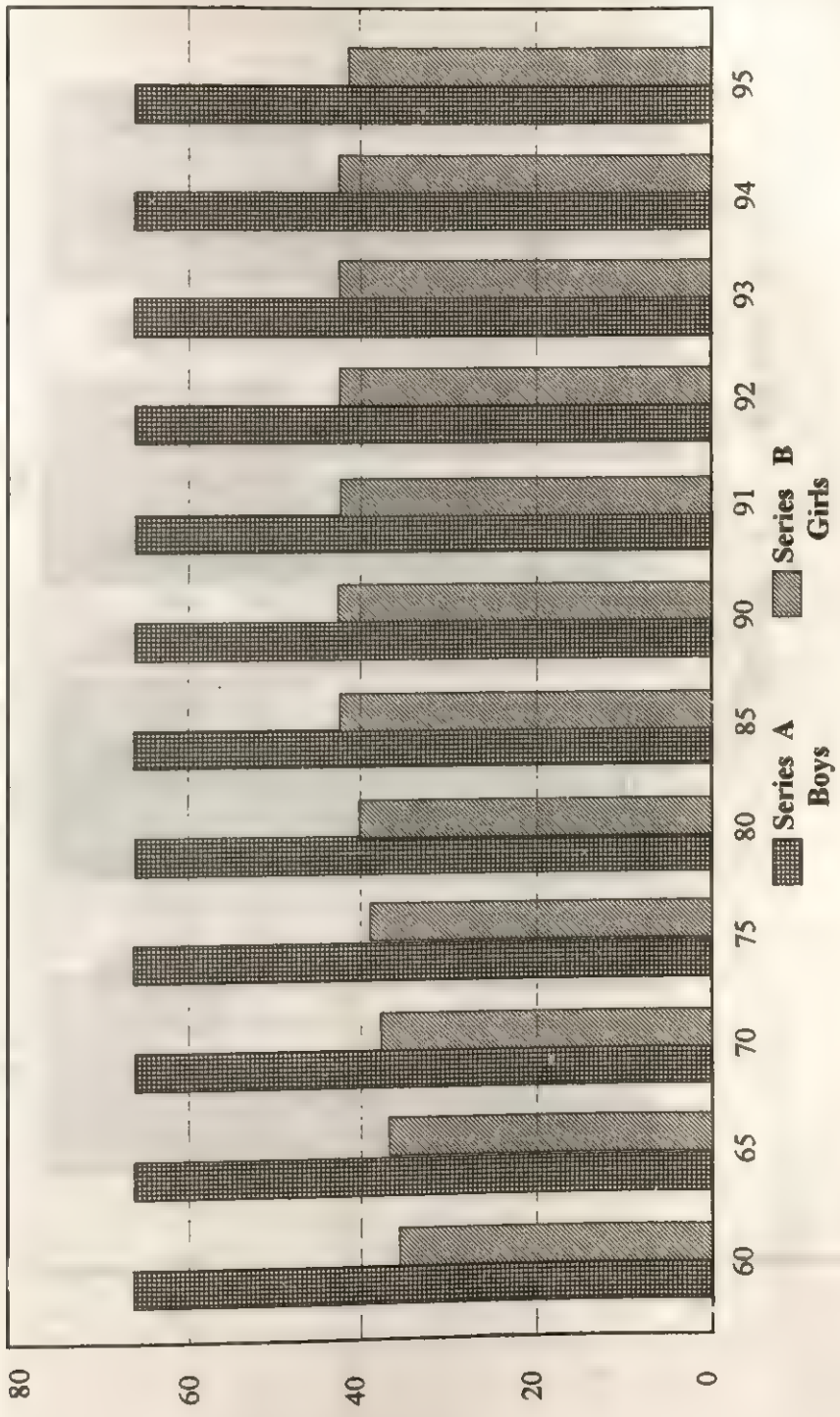
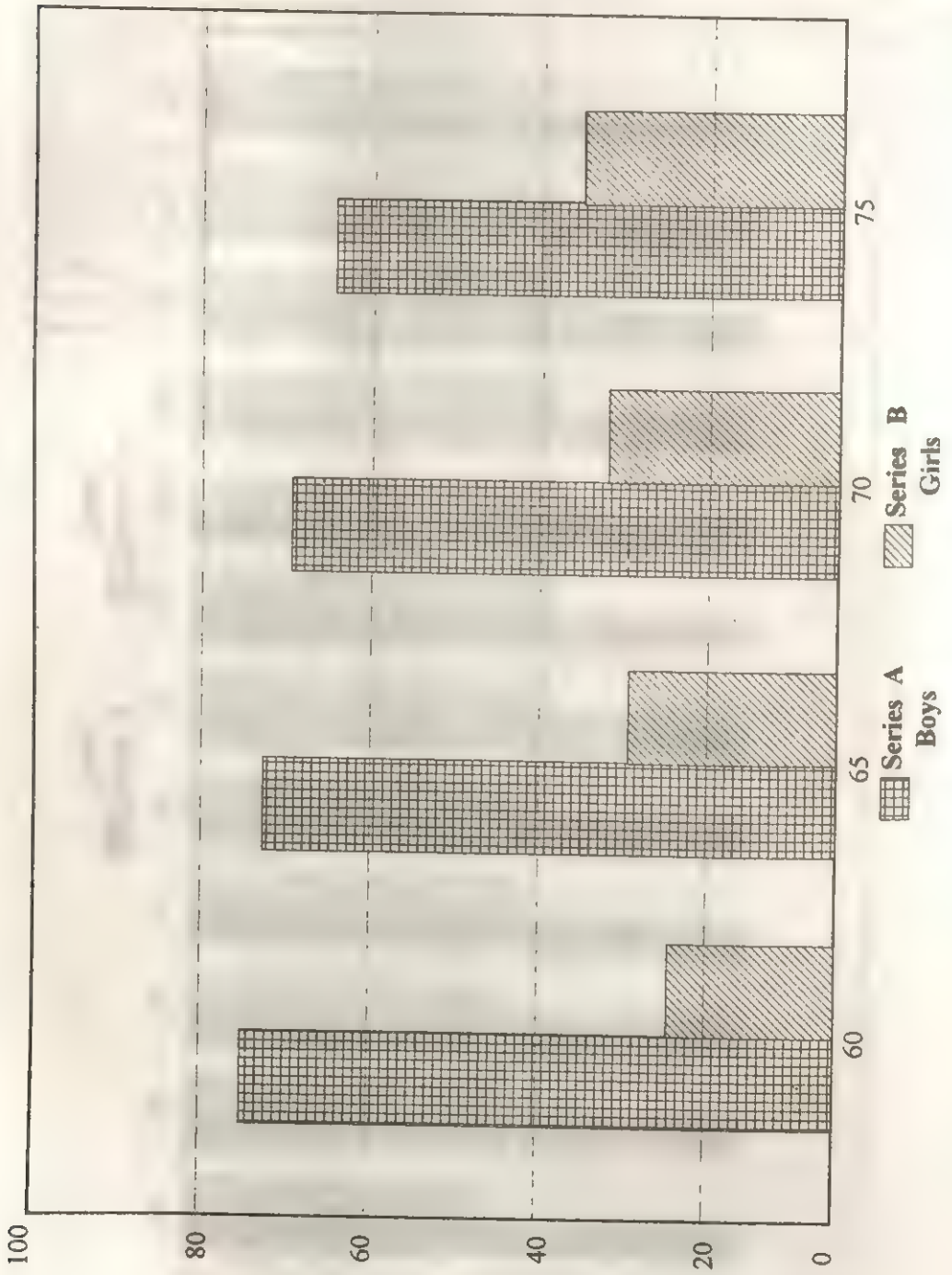
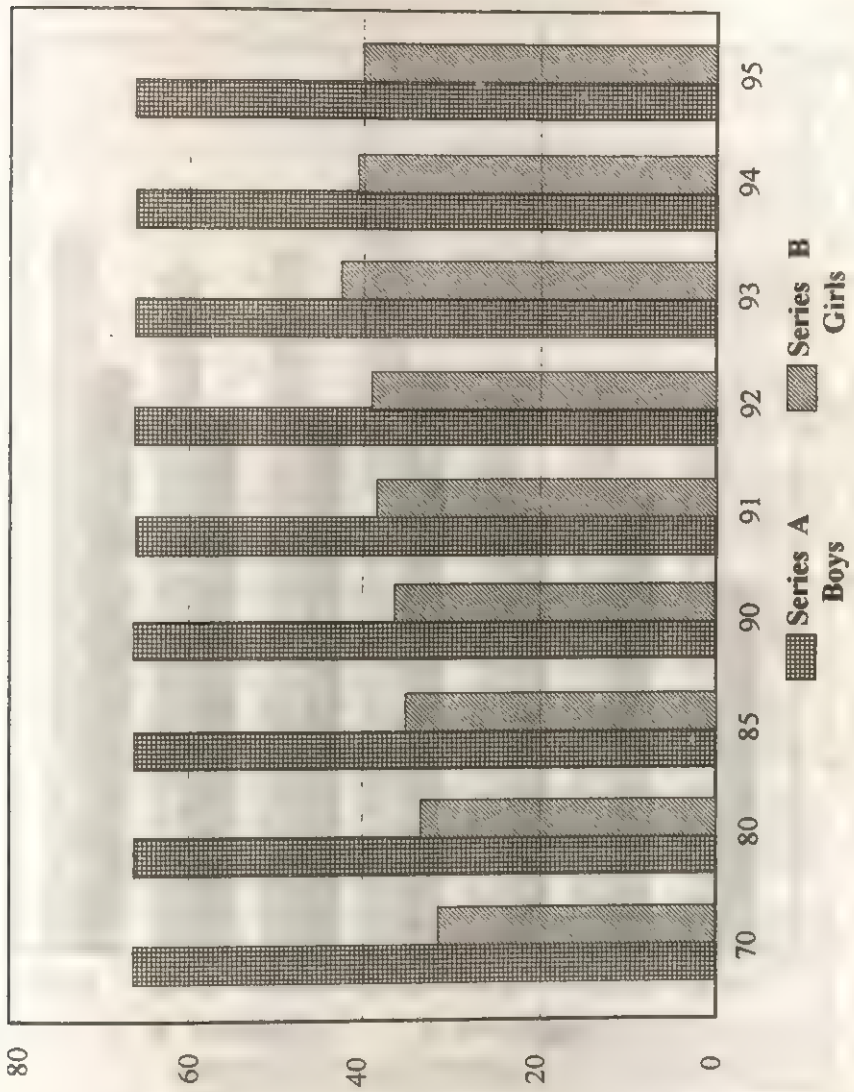
Graphs 1 : % of Student at Primary Level



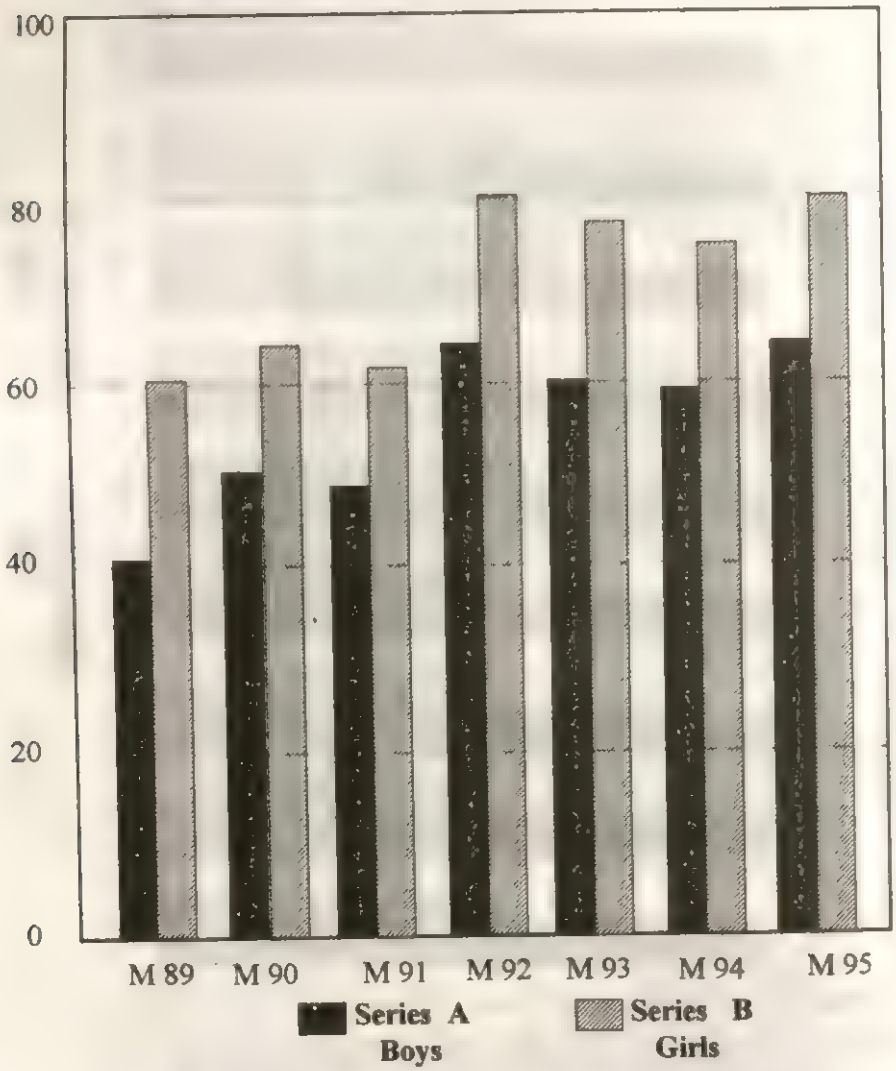
Graph - 2 : % of Students at Secondary Level



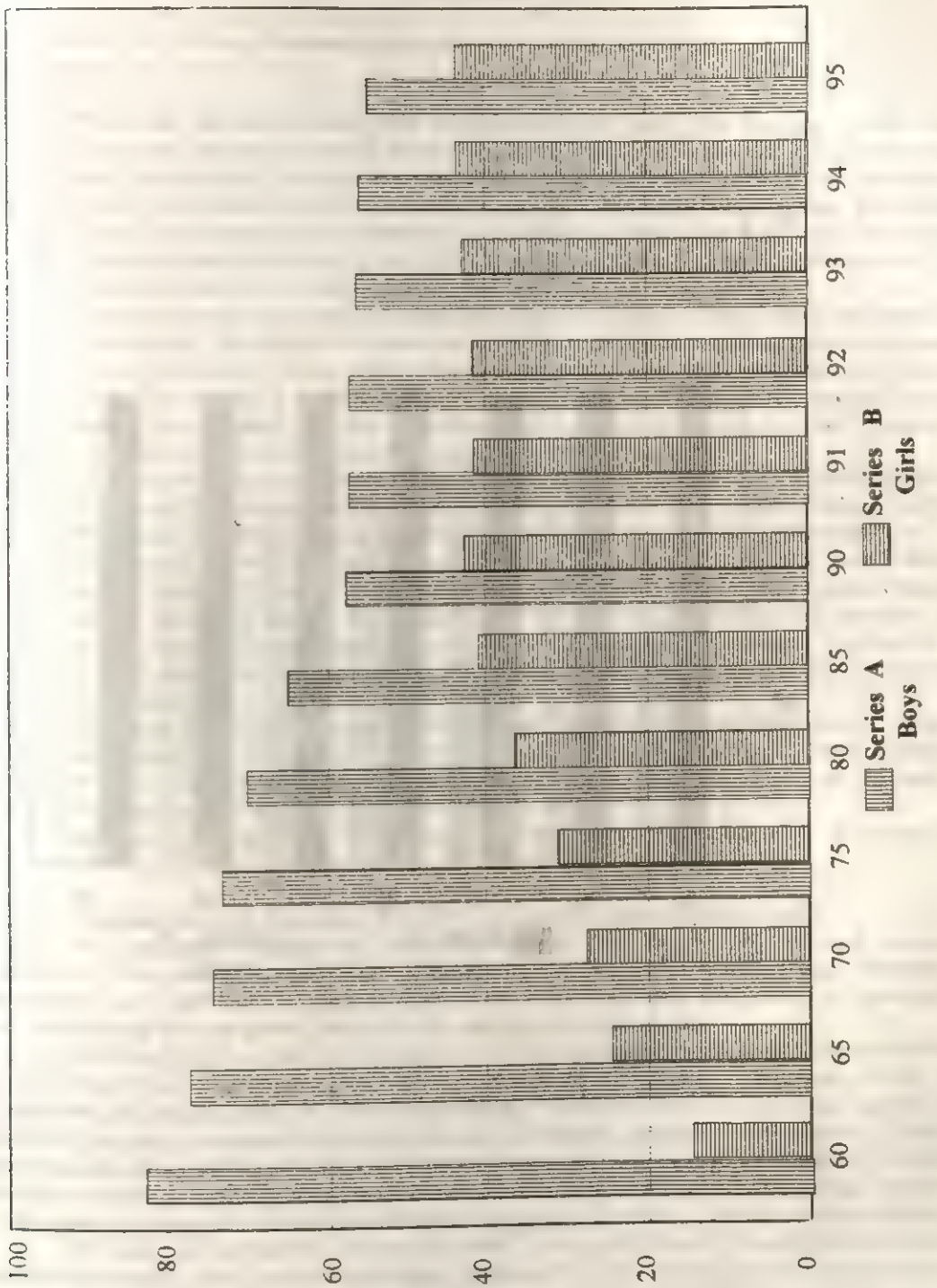
Graph 3 : % of Secondary & Higher Secondary Education



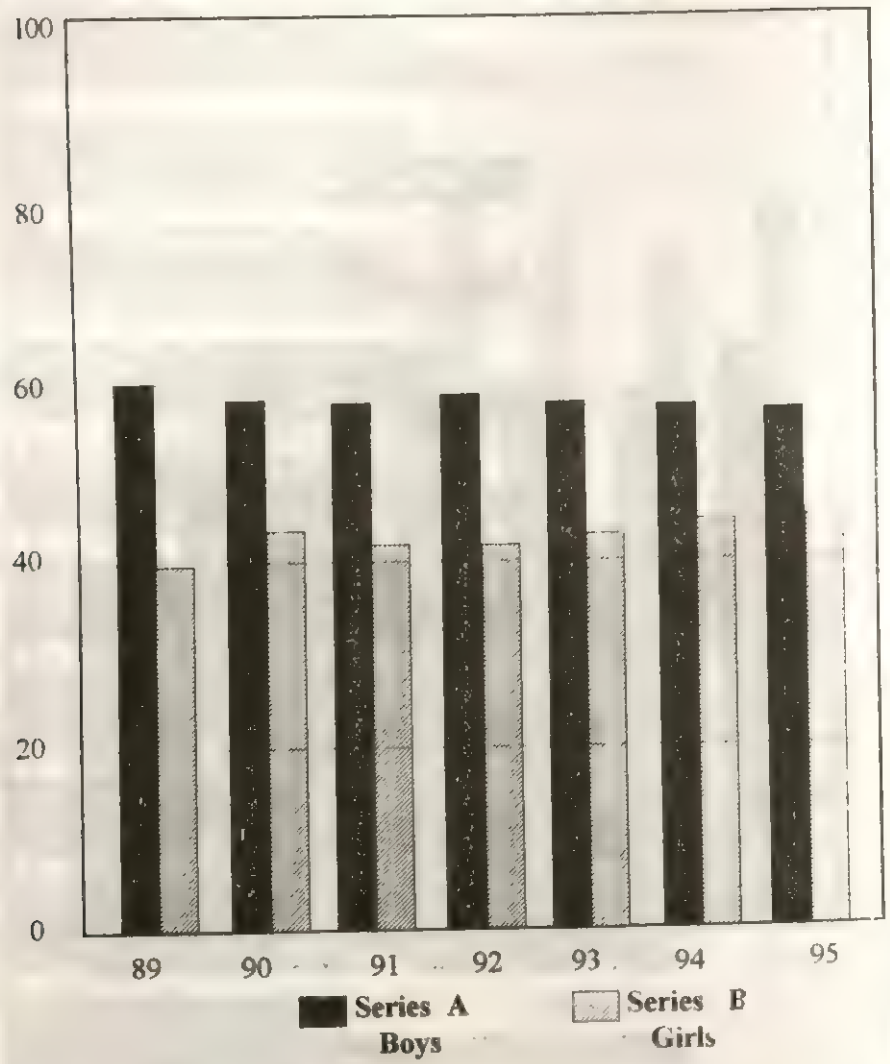
Graph 4 : % of Total Student Passed in H.S.C.E.



Graph 5 : % of Student at Higher Level



Graph 6 : % of Student at P.G. Level



A Study of the Impact of Education on the Changing Roles of Women

Urmi Sampat[1]

Introduction

Women in this country have been an embodiment of energy and strength. From time immemorial, woman has been depicted as Durga the goddess of power, Lakshmi, the goddess of wealth, and Saraswati the goddess of learning. Yet, today, Indian women have been shackled with suppression and harassment due to inadequate social backing, illiteracy, lack of economic independence and gender discrimination. The evolution of social norms and the ideals are generally laid down by a male dominated society. The gender roles are instilled in girls from the very beginning of their lives by the elders in the family. Women have become the victims of deprivation, social injustice, and exploitation.

Gandhiji was very worried about the deplorable condition of women in the country. He wanted to raise their social status He desired that women should be given education according to their needs and aptitudes. In fact, both women and men are complementary to each other None is superior to the other. A major element in Gandhiji's philosophy was his rediscovery of womanhood as a civilizing force in human society. Most singularly, Gandhiji was a firm advocate of equality between men and women and he was not prepared to countenance discrimination against women in any form.

The past few years have witnessed change in the status of the Indian women. With the advent of industrialization, urbanization and modernization, there has been a tremendous change in Indian society. There has been a gradual shift in the family system i.e. from the joint family to the nuclear family. A lot of impetus has been given to the education of women. Higher education and the exposure to mass media have widened the horizon of women. The awakening of women, as a consequence, has witnessed changes in the areas like health and hygiene, social status, awareness of rights and the need for fulfillment of personal desires. More and more women have stepped out of their homes for education in pursuit of a career. Women today hold key positions in engineering, administrative and business occupations including entrepreneurship

Women are strong, determined and despite great obstacles go out to work. They need the support of the family members - husband, parents and in-laws as the case may be. With the spread of education women are trying to play the dual role of both housewife and career women. This is not an easy task if family members do not help the working women as much as possible.

Our ancient scriptures have also stressed the importance of women's education. According to Rig Veda

Twe Vishva Sarswati. Rig Ved 2.41.17

"O learned lady' All life is dependent on you, because you impart education to all".

The Upanishadic scholars like Gargi and Maitreyi, have engaged the Rishis in spiritual discussions. In a court of thousand Vedic scholars, Gargi challenged Yajnavalakya for a discussion. Women with such a glorious past, have not been able to maintain the same social status for themselves and it appears that with the gradual passage of time they have lost their identity.

Mahatma Phule, the great social revolutionary, started a social movement for the liberation of the underprivileged, the downtrodden and the Indian woman in the 19th century. The awareness that he created was the stepping stone for future educationists. Dhondo Keshav Karve, rightly known as Maharshi, has done monumental work for the cause of women's education. The famous S.N.D.T Women's University stands as an obelisk to his name. Women have since gained entry into the portals of education in both the rural and urban areas not only through formal agencies but also through the non-formal agencies of education like the open university. The progress, however, has been very slow indeed.

The Education Commission 1964-66 observed : "In the modern world the role of the woman goes much beyond the home and the bringing up of children. She is not adopting a career of her own and sharing equally with man, the responsibility for the development of society in all its aspects. This is the

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direction in which we shall have to move. In the struggle for freedom, Indian women fought side by side with men. This equal partnership will have to continue in the fight against hunger, poverty, ignorance and ill health".

The resolution on the National Policy on Education (1968) has also stressed the importance of education of women in these words: "The education of girls should receive emphasis not only on grounds of social justice but also because it accelerates social transformation" The Government of Maharashtra has taken a leading role in formulating a policy for women.

One of the main enduring consequences of social evolution has been the emancipation of women from tradition-bound ethos. Women today do not have to play the traditional role only of child bearing, child rearing and house-keeping. Development in the field of science and technology has changed the lifestyle and improved the standards of living. This calls for enhanced family expenditure. So, in a nuclear family and as a career woman, the woman has to play multiple and complex roles Career, social commitment and family responsibilities make heavy demands on her time, energy and capacities.

Hence, 'A study on the Impact of Education on the Changing Roles of Women' was undertaken to survey the utilization of educational opportunities by women and to understand women's changing roles and commitments.

Roles of Women - Conceptual Framework

The roles of women have always been a subject of controversy. Various views have been expressed by activists, social workers, career women and non-career women or housewives from time to time on the significance of the roles of women. These views may be categorized as follows :

- Views which stand for equal status of women with men.
- Views which state that women should get their due rights.
- Views which state that the roles of men and women are complementary
- Views which state that women are treated as inferior.

Each of these has a negative aspect. Maurya [1988] has summed up these views in a very interesting manner. "Fundamentally man and woman are one, their problems must be one in essence. The soul in both is the same. The two live the same life, have the same feelings Each is a complement of other. The one cannot live without the other's active help. But somehow or the other man has dominated woman for ages past."

The research studies on Women and Work usually reflect the following ideas

1. There is a conflict between conventional roles and modern roles
2. There is a reduction in personal services that used to be the special domain of women.
3. Very little attention is paid to the economic role of women.
4. There is a spectacular growth of women's enrollment in higher education which surpasses even that of women in developed countries. Yet, there is a wastage due to the fact that women have not taken up a suitable vocation because of the role that they have to play in the family.
5. Social role of a woman as a mother and wife are emphasized.
6. Man is a bread winner who has a full-time housewife to look after his needs at home.
7. Sharing of responsibilities by the men in the family along with other family members will help women to play their roles effectively.

Role conflict is the term which has generally been used to denote the problematic situations which sometimes arise due to the simultaneous occupancy of two positions held by him/her. For a career woman, this role conflict usually occurs when she has to perform simultaneously several roles viz. the roles of a wife, mother, sister, an employer as well as an employee and so on. Role conflict and the resultant problems are dependent to a great extent on the following factors:

- motives behind employment
- conflicts arising out of incompatible expectations i e. attitudes of the family, husband, children, colleagues, superiors and time restrictions.

Unresolved role-conflicts can affect actual role performance of an individual leading to a lower level of competence and effectiveness.

An article in the Times of India dated 20.8.1997, entitled **Women in India as Second Class Citizens**, says that the women in India have come a long way since Independence - better educated, less dependent economically and more confident but fruits of development have not been shared equally by all. In the same article Margaret Alva states that 'Thirty or forty women in the Parliament cannot change the destiny of crores of those lagging behind'.

The time has come for women to be empowered and this empowerment can come only when the woman is educated and is able to break away from the shackles that have bound her to centuries of subordination and suppression. There seems to be a kind of paradox with reference to the status of women.

Statement of the Problem

A study of the Impact of Education on the Changing Roles of Women

Aims of the Study

1. To study the changing roles of women in a changing society.
2. To find out the expectations and attitudes of members towards the changing role of women.

Objectives of the Study

1. To find out the roles played by the women of today (from various strata of society).
2. To find out the attitudes and opinions of women and their role perception in a changing society.
3. To find out the expectations and attitudes of the members of the family towards the changing roles of women.
4. To find out the attitudes of pupils [boys and girls] towards the changing role of women.

Sample

The data were collected from career women, non-career women and students. The sample used for the study included 212 career women, 202 non-career women and 1000 pupils (boys and girls of std. IX, from 16 schools).

Operational Definitions

Career women refer to working women employed or self-employed having an independent income.

Non-career women are those who are housewives and who are not employed and do not have an independent income.

The practice teaching schools comprise the aided and non-aided recognized schools from the Greater Metropolis of Mumbai, where the teacher-trainees practice their lessons.

Delimitations and Limitations of the Study

The sample of the students for the present study is confined to the students of Std. IX of the practice teaching schools attached to the teachers' training college. The sample of career and non-career women are taken from the family members of these students. The sample thus is purposive sample. Categorization of the careers have not been done as it ranged over a wide spectrum. The data were collected over a period of a couple of years and not subjected a complex statistical treatment. The study was conducted in the Metropolis of Greater Mumbai.

Tools Used for the Study

1. Questionnaire to study the changing roles of women in a changing society.
2. Questionnaire to find out the expectations and attitudes of the members of the family towards the changing role of women.
3. Questionnaire to find out the attitudes of the students towards the changing roles of women.

Tools Administered to Career and Non-career Women

The tools administered to the career and non-career women included items on the following:

- Personal data
- Educational Qualifications
- Sharing and distribution of family responsibilities
- A woman's preference for roles
- Reasons for taking up a job

The questionnaire for non-career women was the same as that of the career women except for the following additional information: The non-career women were asked to state the advantages of not taking up a career and the reasons for not taking up a job

Tools Administered to the Students

The questionnaires for the pupils consisted of items based on

- Personal data
- Family environment - number of members in the family, level of education of the parents and others in the family, occupations of the members in the family
- Freedom perceived at home
- Parity of treatment given to boys and girls
- Identification of the decision maker in the family
- Distribution of duties
- Opinion of the student with regard to his/her mother's taking up a job.

Analysis of the Data

The data collected from the career and non-career women and the students were analyzed separately. The data were analyzed in two sections.

1. Opinions of career and non-career women - Section A
2. Opinions of students - Section B

Section A

Section A shows the data obtained from career and non-career women with respect to marital status, age, educational qualifications, roles played by the woman and the reasons for working and not working.

Figure 1 presents the **marital status** of the career and non-career women.

Figure 1 indicates that a majority of the respondents of both the categories are married.

Figure 2 presents the **age-wise composition** of the career and non-career women in the sample.

Figure 2 indicates the following:

- Majority of the responding career women were in the age group of 25-29 years, followed by the age group 20-24 years.
- Majority of the non-career women are in the age group of 30-34 years.

Analysis of the **Educational qualifications** of women revealed that

- Majority of career women and non-career women had completed their graduation before marriage. **Perhaps this is due to the general awareness in the families with reference to empowering the women with the necessary educational background.**
- It was found that those women, who continued their academic pursuits did so in the Arts stream (includes Commerce stream also) and not the Science faculty. **Perhaps the Arts stream offered better opportunities to pursue further academic qualifications viz. Jobs in banks for the commerce students and also better time management - Science courses are full-time courses and it may not be possible for the women to enroll for a full-time course after marriage.**

A majority of career and non-career women get **co-operation** from their husbands - 54.54% and 60 4% respectively. 17.9% of career women and 21.8% non-career women get co-operation from their children. 14.1% career women and 13.14% non-career women get co-operation from their mothers-in-law. Those getting co-operation from sisters-in-law and brothers-in-law are very few. *However, it must be borne in mind that those ladies receiving help from their husbands could also have received help from the other members of the family. This aspect is beyond the purview of this study.*

Perhaps there is an attitudinal change among the husbands of both the career and non-career women which makes them co-operate with their spouses in shouldering family responsibilities. The mothers-in-law perhaps still wish to retain their superior status over their daughters-in-law.

The **roles played by the woman** were listed out and the respondents were requested to list out the roles in the order of preference. The roles in the order of priority were as follows:

Mother, wife, career woman, housewife and community worker.

Perhaps the Indian woman is culturally conditioned to giving importance to motherhood over other roles. It appears that the instinctive role of a mother is still cherished by women in general in spite of the Women's Liberation Movement worldwide.

Figure 3 presents the **reasons for working** as given by the career woman.

Figure 3 indicates that the majority of women [41%] stated that the reasons for taking up a job was the need for providing additional comforts in the home and the need for earning additional money. The next priority was given to the need for providing for their children's and personal extra expenses and luxuries.

It appears that the women have become conscious about comforts and the leisure that can be enjoyed with additional income. Perhaps the rise in the standard of living has contributed to this factor.

The reasons given by the non-career women for **not taking up a job** are given Figure 4.

Figure 4 shows that a majority of the non-career women [40.6%] felt that they did not perceive the need to work, while 33.2% indicated that the reason for not working was the lack of a reliable person to look after the children. **It appears that perhaps the breaking down of the joint family system comes in the way of pursuing a career. Also, the non-career women in this study, may not have perceived the need for economic independence.**

Section B

Section B shows the analysis of the data obtained from the students with reference to freedom given to them from the family members, equal treatment, decision maker in the family, distribution of work in the family and the priority given to the roles of woman.

A majority of the students - 84.8% boys and 88.3% girls perceived **freedom from the family members** for:

- Participation in cultural activities
- Meeting friends
- Going out with friends
- Cultivating hobbies
- Going for movies with friends
- Mixing with members of opposite sex

It appears that there is an attitudinal change among the parents with reference to the freedom to be given to their wards.

The number of students who do not get freedom is low and the reasons given by them for not securing freedom are:

- fear of getting into bad company
- fear of bad habits
- neglect of studies

A majority of the boys [76.68%] said that they were **given equal treatment** in the family.

Perhaps there is a general change in the attitude of the treatment meted out to the boys and girls in a family.

Figure 5 presents the composition of the pupils according to the '**family member who takes decisions**'.

From Figure 5 it appears that a majority of the fathers take the decisions in the family.

Perhaps the father continues to be the final decision maker in a patriarchal family.

Distribution of work in the family was stated by the pupils as follows:

The work done by the mother in order of priority, according to the pupils are:

- Cooking
- Arrangement of things viz. grocery, tapestry and general beautification
- Taking children to the doctor
- Helping children in school assignments
- Shopping for the family
- Marketing

The work done by the father in order of priority, according to the pupils are:

- Postal work
- Bank work
- Electrical payment

It appears that men do the outdoor work since, none of the pupils have mentioned that their fathers shared the work done by the mother. Perhaps the age old tradition of the father performing the role as a 'Karta' of the family is being perpetuated to date.

The priority given by the pupils to the roles of the woman are as follows:

1. Mother
2. Housewife
3. Wife
4. Career woman
5. Community worker

It is interesting to note that the pupils appear to prefer their mothers play the roles of a mother, housewife and a wife over that of a career woman. Perhaps the pupils associate the role of a mother with that of a nurturing figure. In other words, the cultural conditioning appears to play a dominant role in their preferences towards the roles played by the mother.

Results

1. There is a general awareness in the families [sample surveyed] to provide education to women.
2. Women continue with their educational career by joining the Arts stream rather than the Science faculty [The Commerce faculty has been included under the Arts stream].
3. Majority of the career and the non-career women get co-operation from their husbands while few get co-operation from their mothers-in-law.
4. The roles played by the women in the order of priority were - mother, wife, career woman, housewife and community worker.
5. The main reason for working was the need for the provision of additional comforts in the home. The next reason was to cater to the personal needs and the needs of the children.
6. Majority of the non-career women did not perceive the economic need to work while some felt that it was the lack of a reliable person to look after the home front.
7. Both the boys and girls felt that they were given equal treatment in the family.

8. The work done by the father according to the majority of the pupils was postal/bank/electrical payment work.
9. The priority given by the pupils to the roles of the women were mother, housewife, wife, career woman and community work.

It appears on the basis of the results that there has been a certain amount of social awakening with respect to equal treatment being given to children, providing higher education to girls, co-operation extended to the women by their spouses to the extent to enable the modern Indian woman to carve a niche for herself in society. Thus she is able to establish a distinct social identity which would empower her to embark on the journey to the 21st century. However, it may be sometime before the Indian woman is able to emerge out of the cultural barriers.

Suggestions

If we were to look back and compare the educational system we had before Independence with that of what we have today, there is no doubt that we have made tremendous progress. Female education occupies an important role in this process. The Constitution of this country provides a protective status to certain groups of people, which is an instrument of vertical mobility to them. The Prime Minister, on the eve of the 50th anniversary of India's independence, emphasized the need to empower the girl child with the necessary education. In spite of these gains, the fact remains that we are still inegalitarian. The bill for reservation of women in the Parliament was not passed indicating the paradox of the progress as it were.

Our leaders have begun to see the need for some drastic measures to hasten the progress of women. In this regard, the Prime Minister of India has announced a scheme for providing financial support for the welfare and education of the girl child (*quoted "Mid-day", a leading afternoon daily, dated August 28, 1997).* This scheme would be implemented from October 2, 1997. The highlights of this scheme are provision of financial support to the girl child, with free education, and a provision for doubling the financial support from Standard VI.

On the basis of the present study, some of the areas where **further research** could be done are:

- The awareness of the family members towards woman's work, her personality, individualism, assertiveness, problems at work and the extent of support given, would come to light with a qualitative study involving the career and non career women. How many parents would take an active interest in the bringing-up of their daughters? This aspect would also be enlightened by this study. For no individual could develop into an all-round personality without adequate support from the family members. To name some personalities, Indira Gandhi, Vijayalakshmi Pandit, Sheikh Hasina of Bangla Desh, Benazir Bhutto of Pakistan, the well known Gandhian Usha Mehta, Chandrika Kumaratunga of. Srilanka, Li Chen Sui of Myanmar, Late Dr. Madhuri Shah, Ex-Chairperson of U.G.C. and Sumati Morarji of Scindia Steam Ship Navigation.
- The benefits of the educational system especially at the Secondary and the University status go mostly to the well-to-do classes who use it to strengthen and perpetuate their privileges viz. self-fulfillment needs. Therefore, a study involving a comparison of the changing roles of women from the urban and rural areas could be undertaken.
- The men must be made to realize the importance of women in the society so that an equal treatment could be given to the women. A study of the awareness of these problems can be conducted along with the attitudes of the male members towards these problems.
- A study to investigate the factors leading to the choice of vocation after marriage by women to determine the interrelatedness of the marital status and the choice of vocation.
- A study of prominent women personalities like:
  - ⇒ Kiran Bedi
  - ⇒ Najma Heptullah
  - ⇒ Lata Mangeshkar
  - ⇒ Shabana Azmi
  - ⇒ Medha Patkar
  - ⇒ Tarjani Vakil-Ex.M.D. of Export-Import Bank of India,

could be undertaken with a view to study the factors which have led them to the pinnacle of achievement.

Swami Vivekananda, the doyen of Vedanta philosophy, who burst upon the Indian horizon at the close of the last century as a leader and teacher, traced the downfall of India to the continued neglect of our women. No doubt, old prejudices and complexes towards women in general are reducing day by day Now the women workers -- both urban and rural are entering the employment sphere on an increasing scale with better confidence in themselves. Yet, there is a lot more to be achieved. The structure of the society is such that it still looks upon the woman as the epitome of tolerance, perseverance, subservience and obedience. She alone is still the care-taker of the family

There is a dire need to bring about social transformation along with educational reforms for national development. Women have been able to work along with men on an equal footing. Yet they continue to be objects of sexual harassment. Instances of ill-treatment, dowry death, prostitution, kidnapping and raping of women, female foeticide, are also on the increase. According to a report mentioned in a Gujarati daily, ***Sandesh***, dated August 24, 1997, "Every 44th minute, one woman is raped, everyday 17 women die due to dowry, every year 1350 women are kidnapped. In Calcutta, 60 lakh women opt for abortion." When complaints are lodged against such outrageous incidents, hardly any legal action is taken and those who commit crimes are left scot-free. The Indian culture and its social taboos detain the Indian women from openly voicing the sexual harassment faced by them at their work place. Very few women like Smt. Rupal Bajaj would pick up the issue and take legal action against sexual harassment, along the lines of women in the western countries.

Is the Indian women's ambition to be like Sita, the pure, the devoted and all-suffering? It is now time for every woman in India to be like Savitri whose love could not be conquered by death, who through her knowledge, was able to win a verbal battle with Yama Dharma and ultimately emerged victorious.

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Education: Key to Women Development

.. Satinder Dhillon[1]

Before the arrival of Aryans in India, like the ancient civilisation of Mesopotamia, Sumeria and Egypt, women were venerated in our country as fertility goddesses. Man had not yet discovered the secret of birth which was considered a divine miracle and hence the homage to women in early vedic age, the Aryans paid homage to disunity represented by powerful elements in nature. In the Pauranic period the veneration of women is epitomised through the fact that most of the important goals of life had to be achieved through paying obeisance to female divinities i.e., Shakti, Durga, Kalyani.

Though on the whole, women were respected in ancient India, gradually the society infested by evil customs like dowry, child marriage, Sati Devdasi, by superstition and blind faith, by orthodoxy and traditionalism began insulting and ill-treating women. However the role of social reformers including Raja Ram Mohan Roy, K.C Sen, Ishwar Chandra Vidya Sagar came to their rescue.

It was Maharishi D. K. Karn who found a panacea in women's education for breaking the shackles of orthodoxy which looked upon women as a great curse. He established a separate university for women in 1916 on the lines of similar university in Japan, with just five students.

The struggle for freedom of India also saw the sacrifices of a number of known and unknown women. During this period women's organisation like the All India women's Conference, the Women Graduates Union and others played a vital role in awakening the women.

The constitution adopted by independent India marked an important stage in the liberation of women in as much as Article 45 gives an assurance that the state shall endeavour to provide free and compulsory education to all children within a period of 10 years. No doubt the government has taken some progressive steps and passed laws against evil customs like dowry, child marriages, sati, unequal property rights, wage discrimination and offer for the emancipation and empowerment of women.

A women can be empowered only when she is freed to involve, participate and make decisions in the affairs of family, society and nation. Women will have to develop the skills of learning. Unequal opportunities are very dangerous. Without motivation there can be no empowerment or status for women. M. Justice Rangnath Misra, Ex-chairman of National Human Rights Commission has rightly said "the society would progress only if the status of women was respected and preserved and only women themselves can do that. Even India Education Commission remarked, "The education of women should be regarded as a major programme for some years to come". Commission in 1992 further said equalising women's access to education should be given top priority in all the future development programmes.

Education not only contributes to their personal development but to smaller families and better health of children. Malthus the great economist held that education may help in solving population problem. A study conducted by M. Byerk in Taichurng Taiwan revealed that there was a positive correlation between education and birth control techniques.

Education is a composite skills of techniques, cognitive and non cognitive learning many of which give long range rather than immediate consequences. Education can help development in two ways, namely, (a) by improving the lot of the down trodden through a rousing inspiration and aspiration in them, amd (b) by providing them access to elite roles for helping and guiding the society. It is after education that women can reach positions as Ms Christing Alenso, Minister of Social Affair Spain said. She asserted that exploitation of the image of women is one more term of repression.

Even today the scenario a women development in bleak in an advanced country like Australia. Women make up 75% of the total number living in poverty. Women work longer hours than men virtually in every part of the world. One-third of the girls aged between 6-11 years in developing countries receive no primary education. The mortality rate for girls in the age group of 1-4 is 70% higher than their male counter part. To improve the lot of weaker section of society all the agencies should join hands. Women education should be made a major issue in all the developmental programmes especially in the developing countries. On grounds of equity, fundamental rights, and balanced national development, women have unarguable claims. Hence all the programs and reports of governments should as a matter of routine be

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required to assess the impact of their activities and recommendations upon women. Ministers responsible for women education, should support the ratification and obligations of various conventions on enhancing the status of women through education.

Education for women should aim at educating them according to their mental and physical conditions. New field of learning should be opened up so that woman may be able to meet the challenges of life. These new fields should be so structured that options are open to them to pursue their education taking into account that they have to play a dual role in life--professional and familial. The educational institutions at primary, secondary and higher education should be involved for furthering the girl education.

Towards Gender Equality: Present and Future Perspectives of Girls' Education in Goa

Celsa Pinto[1]

Women constitute almost half of the total population in the country. But the degree of their participation in different walks of life has either been limited or it has been invisible and therefore, unacknowledged. There are a number of structural and cultural reasons responsible for this. As a result, their development in particular, and the development in society in general, has been affected negatively.

Education is perceived as one of the important inputs for the development of women. Yet lakhs of women particularly in rural, tribal and slum areas are outside the pale of education. The gap in education on the basis of sex that starts right from the elementary level widens with each higher level of education. This has given much cause for worry to planners, policy-makers and intellectuals.

The National Policy on Education, 1986 marked a significant step in the history of education in post-independent India. It aimed at bringing structural changes in the existing system of education. It has emphasised education for equality and therefore education for the development of women. It has been said that education would be used as an agent of basic change in the status of women. The National Education Policy will play a positive role in the empowerment of women. It would foster the development of new values to eliminate gender bias through redesigned curricula, text-books, the training and orientation of teachers, decision-makers and administrators and the active involvement of educational institutions. Major stress would be laid on women's participation in vocational, technical and professional education at different levels. The policy of non-discrimination would be pursued with vigour to eliminate sex stereotyping in vocational and professional courses and to promote women's participation in non-traditional occupations.

The State of Goa has a high rate of literacy that is about 75 percent as against 52.1 at the national level according to the 1991 census. In fact the literacy rate in Goa has jumped to more than double in the last three decades. Its male literacy was almost 84 percent in 1991 as against 39 in 1961, 55 percent in 1971 and 66 percent in 1981, which indicates a quantum jump over the years. Similarly female literacy registered quite a significant increase. From 24 percent in 1960, it rose to 36 percent in 1971 to 48 percent in 1981 to 67 percent in 1991.

Yet there has been a long-felt need to dwell on the nature of female education in the State of Goa in its totality, pondering over its problems, their genesis, and policies and plans needed to combat each constraint for achieving the objective of 'Gender Equality'.

Girls' Enrolment and Drop-out Rate

We start with enrolment at the pre-primary stage. From Appendix-1 we gather that the overall girl enrolment in the anganwadis in both 1993-94 and 1995-96 was marginally higher than that of boys i.e., 50.60 and 50.29 respectively.

In 1993-94 girls' enrolment was higher than boys in both districts of Goa. In 1995-96 too the pattern was the same. Higher girls' enrolment in anganwadis may be due to the fact that parents (migrant labourers) prefer to send their sons to the better - organised government and the non-government pre-primary schools. Girls are sent to the nearby anganwadis, but sons to distant pre-primary schools which have better facilities. Here we see gender bias at work.

As one goes up the educational ladder the scenario changes. This is specially upto the secondary stage. Table-1 indicates this.

From the above table it becomes clear that girls' enrolment at middle and secondary school level is lower than that of boys. At the primary school stage, the difference in sex enrolment is negligible. It appears that the situation is slightly critical at middle school stage, and worsens at the secondary level.

We may next examine the overall enrolment of students in rural and urban areas. From Appendix-2 we note that at all levels the said enrolment is higher in the rural schools than in urban schools. The girls enrolment in such schools too is higher when compared to that in urban schools.

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Further from Appendix-4 it is interesting to observe that the overall enrolment of students whether boys or girls is higher in government schools only at the primary stage but is much higher in non-governmental schools at the middle and secondary levels. Parents have revealed their preference for aided/non-governmental schools as their wards move to higher levels of learning.

From Table-2 we gather that SC/ST girls' enrolment in the state is lower than that of boys at all levels - primary, middle and secondary. The situation is relatively bad for the secondary stage (Stds. VIII-X).

Table 1 : Percentage of Girls' Enrolment in the Total Enrolment

Year	School Stage		
	I-IV	V-VII	VIII-X
1990-91	47.98	45.94	45.95
1991-92	48.20	45.95	46.29
1992-93	48.31	45.90	40.77
1993-94	48.41	46.11	46.70
1994-95	48 97	46.14	46.93
1995-96	48 41	46.30	47.05
1996-97	48.44	4676	47.20

Source: State of Goa Educational Statistics at a Glance, 1990-97 (7 booklets), Govt. of Goa.

Table 2 : Percentage of SC/ST Girls' Enrolment in the Total/SC/ST Enrolment.

Year	Classes I-IV		Classes V-VII		Classes VIII-X	
	SC	ST	SC	ST	SC	ST
1990-91	46.60	40.07	46.66	24.13	41.96	42.85
1991-92	48.89	43.75	42 49	28.42	39.04	27.58
1992-93	46.98	43.30	41.78	12.90	40.89	37.50
1993-94	47.87	38.53	43.67	35.80	39.10	23.40
1994-95	50.82	43.07	44.22	19.04	42.23	41.93
1995-96	47.68	45.08	44.50	39.63	40.34	34.72
1996-97	50.37	59.77	41.46	46.42	41.07	45.28

Source: State of Goa Educational Statistics at a Glance, 1990-97, (7 booklets), Govt. of Goa.

In Goa, we have 81 higher secondary institutions of which 42 are located in urban areas. The enrolment of students in such institutions whether for Arts, Commerce, Science or Vocational streams is lower in rural areas than in urban areas. Thus interestingly one observes that upto Std. X. the enrolment is higher in rural schools but by the time students reach the higher secondary stage they opt for urban institutions. Lack of such institutions in rural sectors of Goa may be responsible for this.

The Census of 1991 indicates that the enrolment of girls in rural areas in South Goa district for standards XI and XII is significantly higher than that of North Goa district, but in the urban area schools, the case is just the reverse. The combined enrolment of girls in the North Goa district is much more than that of the South Goa district. Enrolment ratio for rural and urban areas, however do not appear to vary significantly. (Mahajan, Goyal, Urankar, 1994:25)

In 1986-87 the drop-out rate at the end of the secondary stage (Stds.I-X) was as high as 61%. Today (1996-97) after a decade it has dropped to 43.38 percent. The girls' drop-out rate is 43.27 per cent which is marginal when compared with the drop-out rate of boys i.e., 43-49 percent. Table-3 indicates the gradual drop in drop-rate over the years from 1990 to 1997 in case of both girls and boys. It suggests that though the drop-out rate in the case of girls was slightly higher than that of boys every year, it revealed

progressive improvement with each year. Moreover we see the gap between the boy-girl enrolment narrowing down.

The drop-out rate of students (Std. I-X) is indeed a major problem. Nearly 20-25 percent of the students discontinue their education after completing education upto Std. VII. The rate of drop-out at the elementary stage (Stds. I-VII) in the case of girls, is very close to 25 percent. According to data available until 1991, the drop-out rate in respect of girls in South Goa district is over 32 percent which is quite high as against 19.23 in the case of North Goa or 24.94 in the case of the whole State. The boys positions however is slightly better. The overall district-wise drop-out rate is almost double in South Goa district than North Goa district, these being 24.16 and 12.96 per cent respectively. The position in rural areas, in particular, deserves special attention in all cases. (Mahajan, Goyal, Urankar, 1994: 29-30)

Table-3 : Drop-out rate of Stds. I-X (1988-1997)

Year	Boys	Girls
1988-89	54 37	58.71
1989-90	51 20	55 68
1990-91	49.50	52.17
1991-92	51.40	54 48
1992-93	48.40	49 34
1993-94	40.66	41.42
1994-95	41.67	41.53
1995-96	45.76	45.74
1996-97	43.49	43.27

Source: State of Goa. Educational Statistics at a Glance, 1988-97 Govt. of Goa.

A number of children are quite irregular in attending schools; as a result they do not acquire even the minimum levels of learning. They are consequently detained in the same class. A number of students also drop out from different classes at different times. The high drop-out rate of girl students at the middle and secondary school level may be due to a number of factors. A large number of girls, by the time they reach the age of eight, are required at home to do various domestic chores, cleaning, cooking, taking food and water to parents in their places of work etc. A majority of girls of this age group have to look after their places of work etc. A majority of girls of this age group have to look after their siblings, specially when their mothers are engaged in earning a livelihood. Moreover a substantial number of girls are engaged in contributing to the family income by their own labour. There are other factors operating at the school level which negatively affect girls' education, encouraging drop-out and non-enrolment particularly at the primary level. These factors include inconvenient location of schools, absence of female teachers, single teacher schools irregular functioning of schools and lack of basic minimum facilities and resources. Lack of female teachers in most of the schools particularly in the rural areas negatively affects attendance of girl students in the schools.

Scholastic Achievement

The achievement of girls that is indicated here is based on the public examinations held by the Goa Board of Secondary and Higher Secondary Education for students at the end of the +10 and +2 stages respectively.

If we have to examine the SSC results of 1995-97 as indicated in Appendix-5 we are able to note that the performance of girls more or less matched that of boys as regards the pass percentage. The results of March 1997 show that the boys faired better than the girls. But this edge enjoyed by the boys was marginal. But what is interesting to observe from the said table is that the girls surpassed boys when it came to acquiring the Distinction and First grades. On the other hand more boys than girls passed in the Second and Pass Classes.

The SSC merit lists of the years 1992-97 have further very revealing data relating to the scholastic ability of girls in the State of Goa. From Table-4 we are able to gather that during 1992-1994

the girls more or less shared the honours with boys but from 1995 the girls began to steal a march over the boys. This crystallised markedly in 1996-1997.

In 1996 girls secured 75 percent of the total number of ranks while in 1997 this increased to 76 percent. Thus we see that the overall performance of girls in the State of Goa at the SSC Examination specially in terms of ranks, distinctions and First Class holders, is definitely better than that of boys.

The Goa HSSC results of 1993-97 summarised in Appendix-6 clearly indicate the edge the girls enjoyed over the boys whether in terms of pass percentage which was at times a remarkable 7 percent difference or those who acquired Distinction or the First Class. However, the boys surpassed girls when we consider the Second and Pass class categories.

When we examine Table-4 we see that in 1992-97 girls excelled in the Arts stream in the entire period of 1993-1997. Out of 76 ranks 67 were obtained by girls i.e., 88%. In the case of the Science faculty 44 ranks out of 95 were secured by girls i.e., 46%. In the case of the Commerce and Vocational streams, 56 out of 93 (60 percent) and 44 out of 77 (57 percent) ranks respectively were obtained by girl students In three streams the girls performed better than boys while in the Science stream the boys performance over girls was marginal.

Table 4 : SSC/HSSC Results (March/April 1992-97): Number of Ranks obtained by Girl Students

Year	Category	Arts	Science	Commerce	Vocational	Total
1992	SSC					24 (50)
	HSSC		10(17)	12 (18)	11 (15)	33 (50)
1993	SSC					28 (51)
	HSSC	15(16)	6 (16)	8 (15)	12 (15)	41 (62)
1994	SSC					27 (54)
	HSSC	13 (15)	9 (15)	10 (15)	4 (12)	36 (57)
1995	SSC					27 (51)
	HSSC	14 (15)	5 (16)	8 (15)	5 (11)	32 (57)
1996	SSC					39 (52)
	HSSC	12 (15)	4 (15)	9 (15)	6 (12)	31 (57)
1997	SSC					38 (50)
	HSSC	13 (15)´	10 (16)	9 (15)	6 (12)	38 (58)

Source: SSC/HSSC Results of the Goa Board of Secondary and Higher Secondary Education, Goa.
N.B. Figures in the brackets indicate total number of ranks.

Choice of Courses/Disciplines

Female choice of careers/disciplines can be inferred by the stream-wise enrolment at the +2 stage. The maximum enrolment of students for the period 1990-97 is registered in the case of the Commerce stream, followed by Arts, Science and Vocational streams respectively. (Table-5). Girl students have shown their preference for the Arts stream - 61.21% girl enrolment is recorded for the period 1991-97. Likewise 43.26%, 42.63% and 40.30% female enrolment can be noted for the Science, Commerce and Vocational streams respectively. Science is the choice of the second largest segment of higher secondary stage girl students. The choice of faculty between Science and Commerce is marginal, so also between Commerce and Vocational.

Table-5 : Student Enrolment at the Higher Secondary Stage, 1990-97

Year	Arts		Science		Commerce		Vocational	
	Total Enrolment	Girls Enrolment %	Total Enrolment	Girls Enrolment %	Total Enrolment	Girls Enrolment %	Total Enrolment	Girls Enrolment %
1991-92	5129	57.98	4504	41.27	7540	39 37	2320	38.06
1992-93	5498	58.33	4835	43 90	7991	40.93	2469	38 59
1993-94	5670	61.23	5231	43.80	8643	42.77	3039	41.13
1994-95	6160	62.20	5403	42.19	8815	43.57	3332	40.21
1995-96	6365	62.95	5541	45.02	9008	43.83	3586	41.21
1996-97	5628	64.57	5449	43.42	8916	45 34	3595	42.61
	Average	61.21	Average	43.26	Average	42.63	Average	40.30

Source. State of Goa Educational Statistics at a Glance, 1990-97 (7 booklets), Govt. of Goa.

As regards the Vocational courses selected at the +2 stage, the enrolment figures in Appendix-[illegible] indicate the choices made by girl students during 1990-97. Dress-making and Fashion Designing [illegible] favourite of girl students (more than 95 percent enrolment) Accountancy, Auditing and Taxation [illegible] (approx. 45 percent enrolment) followed by Computer Programming Course and Marketing, Salesmanship and Management (in both cases approx. 40 percent enrolment) are other choices. No girl student enrolment is registered in the case of Auto Servicing Technology. Negligible number of girl students show a preference for courses such a Food Production and Beverage, Electronic Assembly and Electronic Repair. Industrial Management too seems to be unattractive to girl students (approx. 10 percent enrolment). These are traditionally looked upon as male-oriented courses.

If we analyse the enrolment of girls vis-a-vis the total enrolment for the years 1990-97 in professional colleges it may be observed that girls alone choose Home Science (Table-6). No male enrolment is recorded in this period for this course. Approximately 78 percent of those who opt for Education are girls. Enrolment figures for Dentistry and Architecture reveal that girls prefer these courses as compared to boys (approx. 68 percent enrolment). As regards Medicine and Pharmacy, the male student enrolment enjoys an edge over that of girls (approx. 53 percent enrolment). Least girl enrolment is recorded in the case of Engineering (approx. 19 percent enrolment).

Table 6 : Enrolment in Professional Colleges of Goa, 1990-97

Courses	1990-91		1991-92		1992-93		1993-94		1994-95		1995-96		1996-97	
	Total	Girls %	Total	Girls %	Total	Girls %	Total	Girls %	Total	Girls %	Total	Girls %	Total	Girls %
Architecture	58	60 36	86	63 54	125	64 00	132	62 87	160	60 62	184	57 60	191	54 45
Medicine	305	47 21	271	49 07	354	47 45	358	46 64	362	41 98	367	41 68	362	41 98
Engineering	584	15 58	614	15 96	622	20 73	600	18 00	599	19 69	638	19 90	656	19 20
Dentistry	76	68 42	84	67 85	119	62 18	100	58 00	126	55 55	109	59 63	125	59 20
Pharmacy	201	47 76	205	54 63	219	57 99	97	68 04	126	57 14	178	60 67	145	60 00
Art	181	29 83	184	31 52	174	33 90	192	28 64	199	32 16	201	37 31	184	36 41
Education	112	75 89	113	76 99	107	82 24	113	72 56	204	77 94	211	78 67	200	84 50
Law	599	23 87	584	28 85	603	32 66	619	32 47	674	37 68	664	32 53	681	38 03
Home Science	54	100	60	100	91	100	92	100	122	100	136	100	142	100

From Appendix-8 we gather that most of those enrolled for B.A. and B.Sc. in the colleges of Goa are girls. This may be due to the fact that boys usually branch off after the +2 stage for professional courses. A higher male enrolment is noted in the case of B.Com. course.

As regards M. A, M.Sc. and M.Com. too girls enrolment is higher than that of boys. But this is not the case with M.E., M. Management Studies and M.C.A., the so-called male-dominated disciplines.

Courses whether under-graduate degree/diploma, post-graduate degree/diploma or even post-matric degree/diploma/certificate, relating to Computer Applications, Engineering, Industrial Relations,

Business and Administrative Management, Hotel Management, Theatre Art and technical courses have very high male enrolment and are obviously male-dominated courses. Nursing, Teacher Education, Stenography -- traditionally women-oriented disciplines, reveal a high woman enrolment.

From the above it is evident that there are certain courses dominated by boys and those by girls. This division of subjects and courses affects the lives of women negatively. This difference which surfaces as early as high school continues later in life. English language and literature, Social Education, German studies and Psychology are dominated by women, whereas, Physics, Chemistry, Electrical or Mechanical engineering are dominated by men Few women enter professions traditionally considered as male domains. Women working as automobile mechanics are still a rarity.

Socio-Economic Policies

Special provisions are enacted and schemes have been launched in India to deal with the problem of dropouts and non-enrolment of children specially girls. Goa is relatively a more advanced State as far as girls education is concerned. But since the enrolment share of girls is lower than that of boys in schools, to reduce this gap there is in operation a specific programme called Development of Girls Education for promoting education among the disadvantaged girls in the State. The scheme is only for backward rural areas where girl students from economically backward classes are given a stipend of Rs. 200/- per annum to help them to meet their essential needs of clothes and the like. Under the Ninth Five Year Plan the scheme is expected to cover EBC girl students of rural areas studying in Stds. I-VIII. They will receive a sum of Rs. 500/- per annum.

If we refer to Table-7 it becomes clear that the budget allotment for girls' education was more than double under Sixth Five Year Plan as compared to that under Fifth Five Year Plan. There was a 25 percent rise under Seventh Five Year Plan and less than 25 percent rise under Eighth Five Year Plan. The proposed Ninth Five Year Plan indicates that the budget allotment for girls' education will be raised four times, yet this share is just. 77 percent of the total budget allotment for General Education. It further reveals that no provision has been made for girls' education at higher levels of school education that is, classes IX to XII and higher education (colleges and university). On the whole the financial implications for female education in the State as reflected in the Five Year Plans, seen in Table-7, are generally less than 1 percent.

Table 7 : Girls' Education and the Five Year Plans.

Five Year Plans	Total outlay for General Education (in lakhs)	Girls' Education Outlay for
Fifth Five Year Plan		4.75
Sixth Five Year Plan		10.00
Seventh Five Year Plan	3440.88	12.50 (0.36%)
Eighth Five Year Plan	5702.31	15.00 (0.26%)
Draft Ninth Five Year Plan	7767.50	60.00 (0.77%)

Source: Compiled from various Five Year Plans.
N.B.:- Figures in brackets indicate percentage share of Girls' Education to the total outlay for General Education.

Gender Attitudes

Right from childhood children are directly or indirectly taught about the sex-based division of labour. Such teaching begins in the family, the first source/unit of socialisation. Most children see, for example, that the mother is responsible for housekeeping. This attitude gradually strengthens with time with the child being exposed to education.

Gender Bias in Curricula, Textual and Other Material

Picture books and text-books play an important role in early sex-role socialization. Through books, children learn about the world around them; they learn about what other boys and girls do, say and feel; they learn about what is expected of children of their age. Also, books provide children with role-model-images of what they can and should be like when they grow up.

An analysis of text-books, picture books, biographies etc. produced centrally or in each State however reflect the spirit of gender bias. Women and girls are presented feebly in stereotyped roles and with other negative attributes. They are seen as passive, timid, disorganised, weak and silly while the qualities attributed to men are courage, bravery, initiativeness and resourcefulness.

Most books are about boys, men and male animals, and most deal with male adventures. Even when women are found in books, they are often portrayed as playing insignificant roles. Girls are shown as those who usually remain indoors. Girls in innumerable stories play traditional feminine roles, directed toward pleasing and helping the male members of the family.

Adult role models provide another crucial component of sex-role socialization. By observing adult men and women, boys and girls learn what will be expected of them when they grow older. In most of the stories, the adult woman is identified only as a mother or wife, teacher or nurse. In contrast to the limited range in women's roles, the roles that men play are varied and interesting. They are kings, revolutionaries and freedom fighters, story-tellers, policemen, soldiers, judges and so on.

The way in which the motherhood role is presented in children's books is also unrealistic. She is almost confined to the house. Her duties are not portrayed as difficult or challenging. She is shown as a house-bound servant who cares for her husband and children. The picture books do not present a realistic picture of what mothers do. Real mothers drive cars, read books' vote, take children on trips, take part in local politics, engage in business, service and so on. These things are rarely portrayed. From these stereotyped images in picture books, boys may learn to expect their wives to do all the house-work and to cater to their needs. (Chaudhary, 1995: 108-125)

What is also interesting to note is that the proportion of male authors is often greater than that of female authors. The language, content and illustration in most materials is male-centred.

The impact of such gender insensitive material is that boys consider themselves superior and girls feel inferior. Girls develop wrong attitudes which do not empower them. Above all, teachers internalise this bias.

In short, the syllabus, picture books etc. used at the different levels of education are full of sex bias. The seed of bias sown during childhood days within the family is gradually strengthened by education outside the family.

An attempt has been made here to examine the text-books of Std. V-VII of the State of Goa to guage the extent of sex bias.

The contribution of women authors to the production of the said books may be about 50 percent in the case of English and History-Civics but much less than this in the case of Mathematics, Science, Hindi, Konkani and Marathi. The lady representation on the expert panel is just 11 percent as recorded in the case of Mathematics.

Further, as regards language, expression and content the gender perspective is ignored. Illustrations and activities for students indicated in the said text-books are at times male-oriented.

Language text-books which usually would have had greater scope for laying emphasis on values leading to the elimination of gender stereotyping, indicate that apart from general topics, 70 to 80 percent of the remaining lessons are male-centred. The extent of gender bias can be noted in Table-8 with reference to lessons on personalities and the roles men and women play.

(A) Table 8 : Personalities that Figure in the Language Text-books of Stds. V-VII of the State of Goa

Men	Women
Mahatma Gandhi	Indira Gandhi
Chandrashekhar Azad	Berta Menezes Braganza
Hargovind Singh	Rani Channama
Pannalal	Ahilyabai
Bakibab Borkar	Mother Teresa
Dayanand Bandodkar	Helen Keller
Babu Guenu	Florence Nightingae
Ramdas	Mirabai
Tukaram	
Vivekanand	
Buddha	
Paigambar Muhammed	
Guru Nanak	
Kabir	
Surdas	
Columbus	
Issac Newton	
Louis Pasteur	
C. V. Raman	
Ramanujan	
Vyas	
Dr. Vaidya	
Birbal	
Master Dattaram	
Rabindranath Tagore	
Chitrakal Dalal	

(B) Roles/Activities Undertaken by Men and Women as portrayed in the language text-books of Stds. V-VII of the State of Goa.

Men	Women
Martyr	Mother
Freedom Fighter	Housewife
Royalty	Teacher
Leader	Nurse
Adventurer	Fetching water
Doctor	Preparing sweets
Administrator	Attending to cleanliness
Manager	Attending to guests
Clown	Playing with dolls
Barber	Loving and understanding
Engine Driver	Fairies and Angels
Soldiers at War	Witches
Space activities	Unfortunate
Banking activities	Giving advice
Panchayat members	

Indulging in games like cricket, football	
Flying kites	
Farmer	
Skillful	
Courageous	
Heroes	
God as male	
Milkman	
Workers in factories	

Source: Text-books (Stds. V-VII), Directorate fo Education, Govt. of Goa. 1994-97

The History text-books focus on the past which is a story of colonisers and colonials, kings and other rulers, freedom fighters etc. These contributors to history were predominantly males.

While Science and Mathematics text-books deal with factual and general issues, one observes bias directed against women as only male scientists and mathematics are singled out for study.

Co-education

In Goa the educational set-up is pre-dominantly co-educational. All government schools, primary, secondary and higher secondary cater to both sexes. In Goa we have 312 co-educational non-government high schools and 24 non-co-educational ones, which forms just 7.7 percent of the total number of high schools in Goa. Middle schools attached to the latter are also non-co-educational, the rest of the middle schools are co-educational.

Regarded as a major reform of the sixties co-education was looked upon as a means to facilitate the creation of greater equality between the sexes. (DPEP Calling, June 1996: 17-21). But we note that instead of girls improving their chances of learning, they continue to be a disadvantaged lot and gender stereotypes persist.

Many teachers' both male and female still have these antiquated and baseless ideas that girls do not have an altitude for science. Of course, no teacher indulges in deliberate discrimination. Discrimination is more subtle and takes place at a subconscious level. It is assumed, for example, that boys are more active and dominating, while girls are quiet and good. Many teachers indulge in veiled sexism even today. "This will probably interest the boys" is a typical introduction to a class on electricity. "The girls are sure to know this from cooking" is a remark often heard when students have to study the use of spices.

Teachers have to be sensitized to negative effects of co-education during training programmes. Teachers should attend to minor details. For example, they can call upon boys and girls alternately to answer questions; give girls the same amount of time for questions and discussions as the boys, and strengthen their self-confidence without ignoring the boys.

Agenda for Female Education in the State of Goa (2000-2025)

In order to deal with the economic problem attached to girls' education in Goa a number of development schemes have been launched. Special efforts have been made to provide mid-day meals, free uniforms and reading materials. But there is need to enhance the amount of money which is allotted to female education. The budget allocation for female education in the State should be raised to at least 10 percent of the total allotment for General Education with some focus on higher levels of education.

Cash incentives should be provided to EBC girl students upto the universitylevel. Merit scholarships should also be awarded to deserving and meritorious girl students. Seats could be reserved for girls on merit basis in all professional colleges and certain branches in the Goa University where selection is done on the basis of merit.

Non-economic environmental factors also have to be attended to, to facilitate the process of educational development of girls. They exist both at the family and at the school level. In order to deal

with this problem, it is essential to abolish single teacher school All the minimum facilities should be provided in the schools. There should be crèches at the schools to take care of siblings of girl students.

Under the Universalisation of Elementary Education (UEE) Programme the following could be focused upon:

Special incentives could be set aside for areas where enrolment of girls is low Special awards of recognition could go to community members and teachers who make special efforts to improve enrolment and help to lower the drop-out rate among girls. At least 50 percent of teachers at this stage should be women.

A system of part-time education for girls who cannot attend school on a full-time basis should be developed. This system should provide education to girls at a time convenient to them. The multiple entry system should be adopted for girls who could not attend schools earlier or had to leave before becoming literate. Provision of additional space in schools should be made so that girls can bring their younger brothers and sisters to be looked after, either by the girls themselves or by some local women.

We must develop gender sensitive curricula, text-books and picture books so that boys and girls have the opportunity to develop without being stereotyped There should be equal respect to both sexes in terms of vocabulary, illustrations, roles portrayed etc Efforts must be made to counter gender bias that creates and sustains a view of the world in which male activities and males are of primary importance and greatest value while female activities and females are marginalised and downgraded.

While framing school curricula special note should be taken of the fact that there should be a common course of general education for both sexes till the end of Class X, all courses being open to boys and girls At the elementary stage needle craft, music and dancing and even cooking should be taught to both sexes. In classes XI-XII girls should have full opportunity to choose vocational and technical courses according to local conditions, needs and aptitude.

Teachers and teacher educators should be oriented to indulge in such classroom practices for elimination of gender bias For example in group work teachers should not ask girls to perform secretarial duties. Boys should not always be asked to carry out the heavier work such as lifting boxes while girls do lighter chores like watering plants They should not ask girls to sweep classrooms. Such practices unnecessarily emphasise the sex of each child or encourage children to think of themselves and each other in stereotypical ways This creates an disparity among the students in the classrooms

As seen earlier certain careers/professions have been traditionally defined as the territory of men and even today women participation in such non-traditional occupations is low For instance many companies still subscribe to the old prejudice that women are unfit for the fields of science and technology It is high time that we take the NPE, 1986 seriously and lay greater emphasis on women's participation in all courses, vocational, technical and professional. This alone will eliminate discrimination and stereotyping For this girls should be provided with employment information and guidance services for entering higher education whether technical or general.

The role of the community in reducing gender disparities and in creating an atmosphere supportive of education for girls and other disadvantaged groups, is critical As a sustained input for bringing a gender sensitive vision among the village community and local school management, it is envisaged that women's groups and other NGOs could exert the right pressure for girls education They could counter negative parental attitude towards girls' education, tradition and social customs that perpetuate and reinforce negative attitudes.

Women's groups at the village level could catalyse collective action around educational issues. Their involvement in enrolment and retention of girls, levels of achievement and classroom practices, with the specific agenda of highlighting the importance of girls education, will go a long way towards achieving gender equality.

The agenda outlined above will hopefully result in:

1. The empowerment of women and their increasing participation in politics.
2. The promotion of women's rights as human rights and the elimination of violence against women.
3. Gender integration.

4. Gender equity that advocates changing the prejudicial economic, legal, social and ideological realities of the female situation.
5. The enhancement of the economic status of women

It will set the ball rolling for:

"A world in which women and men have equal rights and opportunities in all stages of their lives to express their creativity in all fields of human endeavour, and in which women are respected and valued as equal and able partners in establishing the values of social justice, equity, democracy and respect for human rights. Within such a framework of values, women and men will work in collaboration and partnership to ensure sustainable economic and social development for all nations" ("Working Towards Gender Equality", Programme 1993-95, London: 2.)

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APPENDIX -- 1

Student Enrolment in Anganwadis in the State of Goa

North Goa District (Taluka)	1993-94				1995-96			
	No.of Anganwadis	Boys	Girls	Total	No.of Anganwadis	Boys	Girls	Total
1. Pernem	40	534	614	1148	68	542	586	1128
2. Bardez	152	1317	1382	2699	141	1053	1105	2158
3. Bicholim	80	682	725	1407	86	810	793	1603
4. Sattari	83	666	678	1344	86	712	695	1407
5. Tiswadi	109	949	1012	1961	102	850	899	1749
6. Ponda	108	793	848	1641	117	2003	1899	3902
Total	572	4941	5259	10200	600	5970	5977	11947
South Goa District (Taluka)								
7. Sanguem	54	367	418	785	59	516	467	983
8. Salcete	70	1660	1759	3419	184	2210	2240	4450
9. Mormugao	201	1220	909	2129	93	1064	1097	2161
10. Quepem	60	540	534	1074	66	592	675	1267
11. Canacona	40	327	400	727	44	391	413	804
Total	425	4114	4020	8134	446	4773	4892	9665
Grand Total	997	9055	9279	18334	1047	10743	10869	21612

Source : Compiled from Records of State Instutute of Education, Government of Goa.

APPENDIX – 2
Enrolment of Girls/Boys in Rural/Urban Areas

Year	Primary Schools				Middle Schools				Secondary Schools			
	Urban		Rural		Urban		Rural		Urban		Rural	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
1990-91	19856	18170	34852	32295	17885	15337	27361	23126	16086	14119	2115	17544
1991-92	9140	8017	22429	21768	1465	1298	6668	5957	42229	37961	54136	54472
1992-93	9657	8595	22536	21756	1578	1375	6489	5954	41385	378555	53213	44701
1993-94	18490	17622	34989	32572	17499	15269	25937	21910	15387	14087	21580	18308
1994-95	18607	18489	32296	30368	17273	15016	25775	21873	14769	13731	21112	18009
1995-96	22502	21124	28545	26795	19350	16874	23078	19721	16359	15182	18800	16064
1996-97	23172	21810	27904	26193	19341	17350	22619	19501	15999	14870	18546	16016

Source: Compiled from State of Goa, Educational Statistics at a Glance, 1990-1997 (7 booklets) Govt. of Goa.

Appendix 3 is on page 298

APPENDIX -- 4

Student Enrolment in Government/Non-Government Schools of Goa, 1990-97.

Year	Stds. I-IV				Stds. V-VII				Stds.VIII-X			
	Govt.		Non-Govt.		Govt.		Non-Govt		Govt.		Non-Govt	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
1990-91	34436	32584	20272	17881	8518	6850	36727	31613	4385	3227	32860	28436
1991-92	33519	31763	20934	18907	8336	6692	36155	31144	4603	3301	32484	28666
1992-93	33243	31542	21052	19210	8382	6664	35629	30691	4701	3430	31851	28690
1993-94	31970	30509	21509	19685	8401	6868	35035	30311	5018	3650	31949	28745
1994-95	29928	28854	20975	20003	8171	6875	34877	30014	4925	3509	30956	28231
1995-96	28798	27608	22249	20311	8062	6908	34366	29687	4789	3561	30370	27685
1996-97	27611	26590	23465	21413	7882	6979	34076	29880	4835	3578	29710	27308

Source : Compiled from State of Goa, Educational statistics at a Glance, 1990-1997 (7 booklets), Govt. of Goa.

APPENDIX -- 5

S.S.C. Results of the Goa Board, 1995 - 1997

Year	Month	Category	Pass %	Distinction (No.)	First Class (No.)	Second Class (No.)	Pass Class (No.)
1995	March	Boys	65.16	581	1195	2175	3228
		Girls	65.28	674	1248	1915	2686
1996	March	Boys	68.98	392	1042	2017	2652
		Girls	66.09	514	1029	1657	2231
	Oct	Boys	21.25	0	0	0	214
		Girls	22.09	0	0	0	192
1997	March	Boys	71.84	506	1091	2062	2393
		Girls	71.68	607	1266	1760	2071

APPENDIX -- 6

HSSC Results of the Goa Board, 1993 -1997

Year	Month	Category	Pass %	Distinction (No.)	First Class (No.)	Second Class (No.)	Pass Class (No.)
1993	March	Boys	56.10	77	416	1613	781
		Girls	65.42	75	648	1651	710
1994	March	Boys	64.75	130	577	1799	903
		Girls	71.59	138	79.1	1897	801
1995	March	Boys	59.27	134	548	1723	930
		Girls	67.96	141	832	2054	806
	Oct.	Boys	37.36	0	4	14	468
		Girls	39.02	1	3	9	424
1996	March	Boys	60.74	139	511	1752	658
		Girls	67.94	123	757	2085	618
	Oct.	Boys	33.18	0	1	5	282
		Girls	37.65	0	2	3	315
1997	March	Boys	71.17	214	819	2033	570
		Girls	79.29	243	1197	2399	534

Source : SSC and HSSC Results of the Goa Board of Secondary and Higher Secondary Education, 1993-97.

APPENDIX-- 7

Student Enrollment for Vocational Courses offered at Higher Secondary Stage in Goa, 1990 - 1997

Courses	1990-1991		1991-92		1992-93		1993-94		1994-95		1995-96		1996-97	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Insurance	98	41	104	49	107	68	112	50	131	54	90	76	99	62
Accountancy Auditing and Taxation	293	141	306	125	289	143	223	195	366	195	300	228	263	171
Office Management	174	356	193	366	182	353	226	405	235	398	334	422	259	592
Dress -making, Embroidery and Fashion Designing	1	154	5	185	5	234	1	378	4	406	5	471	12	444
Computer Programming	111	44	120	58	151	70	186	141	247	182	211	183	198	180
Industrial Management	45	4	37	4	33	2	34	9	28	21	27	12	26	11
Marketing, Salesmanship, Management	55	28	55	32	50	30	52	44	60	34	38	30	46	23
Electronic Assembly Technician	207	18	187	9	189	12	189	13	224	28	215	36	243	33
Auto Servicing Technology	86		113	-	59	-	226	-	160	-	341	-	352	-
Electronic Repair Technician	164	3	193	4	231	5	261	12	151	16	295	11	296	12
Food & Beverage	36	-	29	-	31	-	66	2	83	2	82	-	89	-
Food Production	38	5	42	3	66	-	113	1	133	4	170	9	170	4

Source :- Compiled from State of Goa Educational Statistics At a Glance, 1990 - 1997 (7 booklets) Directorate of Education, Govt. of Goa.

APPENDIX -- 8

Student Enrolment at Higher Education in the State of Goa, 1990-97

Courses	1990-1991		1991-92		1992-93		1993-94		1994-95		1995-96		1996-97	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
B.A.	940	1973	1073	2151	1179	2408	1204	2570	1272	2664	1222	2728	1159	2729
B.Sc.	702	822	837	944	911	1147	1123	1340	1087	1520	1172	1644	1109	1700
B.Com.	3040	2269	3487	2660	3675	2980	3665	3136	3730	3155	3473	3308	3293	3537
M.A.	98	144	105	156	147	180	115	204	122	233	132	265	104	254
M.Sc.	121	113	112	131	127	131	110	126	111	134	100	146	86	167
M. Com.	145	100	224	110(?)	139	92	79	79	72	74	78	79	60	67
M. Phil.	23	13	37	20	24	16	13	15	34	42	25	14	6	13
M. Pharm.					7	2	3	3	8	3	2	7		
M.M.S.					52	15	47	21	31	30	44	22	49	15
M.C.A.					34	16	39	22	43	27	43	21	53	31
M.E.					10	--	10	4	16	-	12	1	16	-
M. Ed.	7	5	7	4	5	2	1	9	2	8	6	6	4	4
M.D.	6	6	1	8	3	6			7	7				
M. S.	4	1	3		3	1			4	-				
Ph. D.	8	10	18	11					2	3			1	-

Student Enrolment in the State of Goa for Professional Post - Graduate / Diploma Courses, 1990-97

Courses	1990-1991		1991-92		1992-93		1993-94		1994-95		1995-96		1996-97	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Occupational and Industrial Health											12	1	7	4
Environmental Pollution Control							12	8	14	10	7	6		
Computer Applications	13	14	11	10	13	7	14	11	16	10	9	21	12	17
Business Management	28	4	34	4	35	32	23	9	42	8	33	16	37	18
Administrative Management	32	11	27	13	10	2	24	20	27	22	42	18	22	22
Labour Law									9	5	8	3		
Medicine	1	3	1	5	1	8			11	3				

APPENDIX - - 9
Stereotypes/Biases

Men	Women
Breadwinners	Caretakers
Must earn	Must do housework
Do 'outside' work	Do 'inside' work
Access to education/technology/Information	Illiterate/home science
Must support family	To care for the house
Pressure to work/earn well	If wants to work, must also handle home
Must be independent	Should be dependent/protected
Access to technical qualifications	'soft' professions e.g., teaching, nursing
Leaders/committee members	Followers/supporters
Get hired	Work part-time/get retrenched
Higher positions	In 'soft' positions
Qualified therefore decision makers	Follow instructions
Bosses	Subordinates
Head of household/own assets	Extension of men with no independent identity
Get into business	Home-based industry
Work gets accounted	Work supplement and not recognised.

Source: "Building a Gender Perspective in DPEP" , DPEP Calling, No. 17, April 1996,, p.16

Appendix –3
Total Enrolment of Students of Goa of the SC/ST Categories, 1990-97

Year	Stds. I-IV		Stds. V-VII		Stds VIII-X	
	SC	ST	SC	ST	SC	ST
1990-91	2624	277	1123	87	703	7
1991-92	1626	144	1153	95	735	29
1992-93	2971	127	1309	31	917	16
1993-94	2515	109	1257	81	936	47
1994-95	2184	130	1273	21	805	31
1995-96	2661	122	1447	111	704	72
1996-97	2370	87	1266	84	852	53

Source: Compiled from State of Goa. Educational Statistics at a Glance, 1990-97 (7 booklets), Govt of Goa.

Student Enrolment in the State of Goa for Professional Degree/Diploma Courses, 1990-97

Courses	1990-1991		1991-92		1992-93		1993-94		1994-95		1995-96		1996-97	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Theatre Arts	20	11	12	6	4	2	11	3	10	5	13	3	28	12
Music	3	3	6	5	6	4	7	5	7	11	3	1	1	3
Business/Finance and Investment Management	17	-	38	6	15	3					12	3	11	3
Hotel Management	32	2	19	1	29	2	9	1	38	4	25	5	22	-
Computer Programming	15	8	23	17	25	15	232	208	24	14	15	15	7	13
Travel and Tourism Management	11	12	8	9	10	18	13	16	13	14	10	5	6	10
Personal and Industrial Relations			17	2	20	2					11	4	19	5

Student Enrolment in the State of Goa for Professional Post - Matric Diploma/Certificate Courses, 1990 - 97

Courses	1990-1991		1991-92		1992-93		1993-94		1994-95		1995-96		1996-97	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Civil Engineering	128	45	37	22	113	49	99	69	99	69	99	69	140	80
Mechanical Engineering	180	2	62	-	188	2	176	-	184	2	308	-	261	-
Electrical Engineering	81	3	27	-	68	5	66	6	66	6	66	6	72	8
Industrial Electronics	96	23	30	13	121	31	101	30	101	30	101	30	81	41
Instrumentation	-	50	-	20	-	60	-	50	-	50	-	50	-	51
Fabrication Technology	74	-	29	-	96	-								
Food Technology	23	9	10	7	29	14								
Stenography & Secretarial Practice	2	34	1	21	-	16								
Computer Applications			12	4	23	5								
Mining & Surveying			51	-	40	-								
Production Engineering	149	1	132	-	140	1								
Construction Engineering	124	4	118	7	131	12								

Courses	1990-1991		1991-92		1992-93		1993-94		1994-95		1995-96		1996-97	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Automobile Engineering	120	-	111	1	134	1	146	1	149	1	141	-	150	-
Electronic /Computer Engineering	67	9	70	10	70	17	73	14	73	20			34	-
Ship-building	90	-	120	-	112	-	149	-	157	-	74	-	40	-
Marine Electronics													30	-
Nursing	5	35	4	41	15	157	15	157	12	168	8	126	7	127
Health Workers' Course	3	7	6	10	13	20	13	20	17	14	18	14	22	16
Management & Catering	132	22	129	18	164	20	139	29	146	20	165	35	250	51
D. Ed/ACDIL/TTC *	7*	67	5	61	4	69	2	81	2	86	2	81	4	78
Craft, Food & Beverages	20	-	24	-	24	-	24	-	48	-	44	4	48	-
Food Production	35	5	35	5	36	4	31	9	24	-	24	-	48	-
Fitter	34	-	40	-	40	-	36	-	27	-	40	-	39	-
Electrician	38	-	39	-	28	-	36	-	14	-	34	-	34	-
Diesel Mechanic	17	-	19	-	20	-	20	-	18	-	17	-	20	-
Carpentry	16	-	8	-	10	-	11	-	10				11	-
Computer Application for Beginners	3	1									13	11	2	6
Catering and F.B. Management													30	-
Electronic Mechanic					19	-	20	-	38					

Source : Compiled from State of Goa, Educational Statistics, At a Glance, 1990 - 97 (7 booklets) Government of Goa.

FLIPCHART : A Simple and Effective Instructional Media

Bijender Singh[1]

Introduction

The instructional media has a definite place in the training process. It is no secret, of course, that people hear and see things differently, we live in a world of visuals; we should also realise that the addition of an instructional aid may well contribute to the learning process.

Some studies indicate that of all the five senses, we learn most through sight. As a point of interest, it is estimated that 83 per cent of what we learn is learn through sight! On a related note, research indicates that trainees generally remember 10 per cent of what they read, 20 per cent of what they hear, 30 per cent of what they see and 50 per cent of what they hear and see.

Media, combined with lectures and other oral presentations, stimulate the auditory and visual senses simultaneously. To be effective, visuals must support the content of the spoken message. They must relate closely to the narrative and they must be interesting to the participants. The visual portion of the presentation should be directed towards the achievement of the training goals. Visuals also offer an excellent technique for overcoming possible boredom. They provide the variety that keeps the participants attentive.

The instructional media is generally categorised into the projected and non-projected. The non-projected media includes a number of instructional aids such as chalkboard, bulletin board and magnetic boards, flannel graphs, flannel strips, flash cards, models, real objects, samples/specimen, pictures, exhibits, poster, charts and graphs atc. Many of these aids can be planned, prepared and used effectively. Most of them do not require expensive materials for their preparation and they can be prepared by the trainers/extension workers themselves without any help of the artist.

Flip chart is also one of the commonly used non-projected aids in training situations. It can be an effective supplement to or even a substitute for projected media like slides, overhead transparencies and others. It is especially useful for instruction involving sequential steps in a process. It can also assist the lecturer in maintaining an organised presentation. It is inexpensive, easy to use and can be an attractive addition to the training session.

A flip chart can be defined as a series of visuals drawn on large sheets of paper/drawing sheets/card board fastened together at the top. These are turned over or "flipped" one at a time as the presentation is made.

Advantages of a Flip Chart

1. Inexpensive: Flipchart is relatively inexpensive as it is made of locally available materials.
2. Prepared material: Professinally prepared material will enhance the training effort. Use of stencils, cartoons or transfer letters helps make the flip-chart a professional and attractive medium. The use of the colour adds further to attractiveness of the device. When the flip chart is used in concert with other visuals, the training rooms become a real stage for learning.
3. Ease of use: Since there are no mechanical or moving parts as such, the flip chart is usually a foolproof technique. It requires a minimum of set up time and can be used easily.
4. Ease of reference: By using tabs (stapled to the edge of the sheets), the flip chart can easily be returned to earlier points should they be recalled for reference. So, revision to up-to-date parts(s) of flip chart can easily be made.
5. Reusability of material: Should the content of a trainer be one that will be replaced frequently, prepared flipcharts are a good choice. If they are prepared neatly and proper care is taken during their use, same flipcharts can be used more than ones.

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6. Accessibility: If there is any one piece of equipment that seems to be universally found in every training facility, it is likely to be the flip chart. In fact it has supplemented the chalkboard in many sites. Even in hotel/motel facilities, flipcharts are becoming increasingly popular when there are no chalkboards mounted to the wall. These are usable in most situations, both for classroom and outdoor setting.
7. Visibility: Best used with small group the flipchart allows full visibility for group discussion. In demonstrations that require several sheets, the individual sheets are easily removed from pad and can be taped on wall surface with marking tape. Posting of these sheets provides full and complete visibility and reference on all items discussed earlier.
8. Portability: With folding easels commonly available, flipchart are extremely portable. They can be taken to where the class/training session will be held. Typically light in weight, these units with a rolled up flipchart and carrying case can be transported with ease. Table top and fold up units are also available.
9. Focus of attention: Sheets to be used in a later part of the presentation are, of course, hidden from view until you flip the chart to that particular page. Another variation, using a process of covering points, focusses attention on the respective item you are addressing. By removing marked portion of the chart, you reveal the items you want to discuss point by point. Pull sheets of paper or strips of paper or cardboard can be used to cover the points.
10. In flip chart ***any type of visuals*** can be used for display i.e., pictures, charts, graphs, diagrams, posters and others.
11. Presentaiton is ***organised*** and in ***sequence*** since flipcharts are fastened together.

Limitations of a Flipchart

1. It requires ingenuity or design production skills to prepare.
2. If the group is big then legibility and visibility of visuals remains poor due to its limited size.
3. It can accommodate a smaller audience than projected visuals.
4. Flipchart materials (paper, drawing sheet or cardboard) get damaged easily.

Application of a Flipchart

1. Present and emphasize important points or list of items, facts and figures.
2. Build up a story through visuals.
3. Show a process of operation or sequential concept.
4. Produce dramatic impact through progressive disclosure.
5. Serve as guide in maintaining an organized presentation.

Factors to consider in Flipchart Design

1. Size of page: The bigger the flipchart, the better. It must be large enough to be seen and read clearly by all viewers, but not too big for easy handling. A 24 x 34 inch flipchart is suitable for an average size lecture room or for open field with 24 to 35 people as audience.
2. Type of charts: There are innumerable varieties of charts which can be used in a flip chart, some types in common use are: Bar charts, Pie charts, Tabular charts, Tree charts, Flow charts, Pictorial charts, Overlay charts, Pull charts, Strip (tease) charts, Spiral charts, Window charts, Shutter charts.
3. Type of Illustration: Decide or select the type of illustration that can be best depict your idea or message; stick figures, cartoons, stylised figures, realistic line drawings, or photographs. Illustrations suitable to flipcharts are those with big, bold lines with minimal details. Too much details in the illustration will only confuse and destract the viewers.
4. Lettering style and size: For maximum legibility and readability of headlines, captions and labels, the recommended letter size (in terms of height) is atleast 1 to 2 inches. Use simple lettering style, preferably Gothic or block letters. Use capital letters for headline and combine capital with small letters for captions and labels.

5. Language level: Be brief and concise with the statements and delete unnecessary words. Use simple terms, if technical terms cannot be avoided, provide enough explanation.
6. Layout: Arrange headline, illustration, text or caption in sequential order. Aim for simplicity and provide enough space in each flipchart.
7. Colour: Use colour for contrast and emphasise vivid and bold colours that draw attention to and focus on the message. Use colour sparingly, 2 to 3 colours are enough.

Steps in Designing a Flipchart

1. Start with an idea.
2. Identify the salient points of the idea and put them in sequence, each point to be the subject of one visual.
3. Visualise each sequence.
4. Prepare a miniature flipchart.
5. Finalize the miniature flipchart.

Steps in Constructing Flipchart

1. Stack the charts evenly and fasten them together with stapes or by some other means to ensure that they will remain in position (i.e., stich, tape, glue, etc.)
2. Hinge the cover and sheets together at the top. Use any of the following methods:
   a) Staple wires may be enough if the paper used is light weight.
   b) If paper stock is heavier, use wooden or iron slates on either side of the filpchart attached together with screw and bolts.
   c) Rings or cord with punch holes at the top or edge of the sheets may also be used.
   d) The assembled flipchart may be mounted on lightwood or heavyboard.

Techniques to Enhance the Effectivity of a Flipchart

1. Keep your presentation simple: Do not attempt to include too much detail. A few simple strong points or symbols, well explained as they are presented, are better than a complex presentation.
2. Keep the lettering (titles and text) and visuals simple, but large enough for everyone to see.
3. Place the flipchart where it can be seen by all viewers. It can be in a part of the room where lighting is adequate.
4. Be sure your materials are in proper sequence. Fasten the flipchart securely so that it will not fall apart during your presentation.
5. Face and talk to the audiance, not to the flipchart. Avoid blocking the audience's view of the flipchart.
6. Reveal the information only when you are ready to discuss them not before.
7. Put summary points on a separate sheet rather than turn them back as you make your conclusion.

Conclusion

Flipchart is a low cost instructional aid which can be used very easily time and again. It also has the qualities like accessibility, visibility and portability. It can be an effective supplement to or even a substitute for projected media like slides, overhead transparencies and others. Some factors like appropriate size of the page, type of illustraion, lettering type and size, language level, layout and effective and meaningful use of colours can increase its effectiveness to a large extent.

Simple techniques such as simplicity of letters, placing it at a suitable place, proper sequence of materials and revealing the information at right time can further increase its effectiveness. A progressive disclosure of visuals can have a magical effect on the audience.

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Developing Thinking
A Critical Need for Education in the Next Millennium

Fr. Francis E. de Melo, S.J.[1]

Until now our pattern of education, whether this is for school children or engineering degree students, was based on covering a curriculum. And almost always designing this curriculum came down to fixing the content of a syllabus to be covered, which was then the basis of written and/or oral examination.

This pattern of education was perfectly suited to the past. A hundred years ago, a medical student, for instance, learnt what was prescribed in his syllabus, and most of that would be useful to him for his life as a doctor At that time, things didn't change much over a period of 30 years.

Today the phrase "knowledge explosion" is already old. A working person, whether an engineer or a typist, finds that the knowledge and skills required to be competent in one's work are continuously changing. The engineer needs to keep up with an ever-increasing flow of new processes and technologies; while the typist finds that typewriters are out of use and newer and better word processing softwares continuously keep coming into the work place. First, he or she had to shift from the old typewriter to learning how to use Wordstar on a computer. That was bad enough. A few years later, Wordstar became obsolete because Word Perfect was so much better. Later he or she had to learn again because MS Word was brought into the office. How different from the experience of a typist 60 years ago who learnt typing once and then used the same typewriter for all of his or her life.

Our pattern of education, unfortunately is still meant for the old unchanging world.

The Effects of Low Thinking Skills

Everybody says that India today is on the threshold of a dazzling economic take-off. However, for very long, India has been used to low technology work with very large volumes. For instance, India has the largest diamond polishing industry in the world. But most of this work very small diamonds being polished by hand by extremely underpaid persons sitting on the floor. No big diamonds, therefore, are ever sent to India for polishing. Cutting a large diamond requires scientific knowledge of crystals, the use of sophisticated instruments plus much creativity in designing the cuts. This highly-skilled, highly-paid work is usually done in a country like Israel while India continues to do the large volume of low-skilled polishing.

This low quality of design is seen across a wide range of industry. If we take computer software, one hears that Indian programmers produce world class software at less than a quarter of the salary of their American counterparts. Unfortunately, most of this is lower-end software. There is not enough of system software writing in India because this involves much more complex coding and calls clearly for original design, whereas much of the application software done here involves stereotyped work. A clear case of this is the highly publicised C-DoT telephone switching equipment where the system software is completely indigenous. The equipment is rugged and works fairly well. C-DoT switches like the RAX and MAX are exported to several African countries. Unfortunately, the design satisfies only unsophisticated users; users who expect a wide range of facilities from their telephone service would rather use Siemens or Alcatel. What prevents Indian programmers from designing into their software all the many facilities that Siemens offers?

All these examples are part of a global trend where, in almost every field from chemicals to electronics, bulk manufacture requiring **low technology** is **shifting to Asia** while advanced countries move to more of high-technology design and services.

This trend is surely an **effect of the pattern of education**. For too long our education has been suited to a country that depended on other for original design and development. The requirement of doing original creative work was not a high priority in India.

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Preparing people for the work of the past required giving them the information and know-how they needed to be competent for the rest of their lives. This called for determining the content of the syllabus to be learnt

Because of this our educational systems have failed in two ways to prepare student for the demands of today's world First, they focussed on developing syllabii. In the process we have ended up with extremely **heavy syllabii** often overloading the students with too much material to be learnt, very much of which will be irrelevant to most of them in their work situation.

Second, because of the over-burdening caused by a large syllabus, students have been led to feel that **thinking is a painful and difficult activity,** rather than feeling that "thinking is fun". Many therefore are turned off in later life from reading up on new ideas and developments. This spells disaster in a world where life-long learning is a must.

Moving to An Awareness of Mental Fitness

For many decades while the pace of development was slow, people in developed countries got used to a certain physical lethargy, which was helped by the fact that there were more and more machines to do the physical work, whether in the factory or at home Today with the increased demand of peak performance in modern life physical fitness has become a hot commodity. everyone jogs or goes to aerobic exercise classes, books and videos on exercise and fitness are out by the hundreds, and often on the best seller lists.

A similar awareness of the need for mental fitness is only beginning to emerge. There is a rising awareness among highly placed persons who completed their education more than 15 years ago that they have a fear of new learning. They find that they do not want to learn to use computers even though their children are having fun with them They find that they do not even have the courage to read the user's manual of the new VCR that they have bought at home They would like to set up that VCR to record a programme that will be broadcast later, and they know that the VCR has the facility, and their young daughter knows how to do it, but they have never figured it out.

It is this **general agility of the mind** that is a burning need for the world of tomorrow. A physically lethargic person is turned off from any task that requires an agile body. Similarly the continuous learning and creative flexibility required for the world of tomorrow overwhelms a person whose brain has got rusty from lack of exercise.

Unfortunately, there is not yet a widespread awareness of how to keep the brain fit. Everybody thinks, but few are aware that the ability to think, to understand a complex procedure, to solve a problem or to remember data can be developed through mental exercises.

Also few are aware of important pre-requisites to efficient brain work, like proper breathing and deep quieting. We will examine these later.

The Education Pattern for the Future

If we are to prepare people for the world of tomorrow the pattern of education must shift its emphasis from filling the students with much information to developing the ability of students to think.

The sophistication of the information which must be learnt, and the speed at which learned material must be discarded and new material learnt, requires students to be able **to learn fast and easily**. They need agile minds to learn new processes and designs, and to solve new problems as they come up, as well as quick memories to remember continuously new information.

The education of the future needs to **shift its emphasis** from a heavy syllabus to developing the students' **thinking skills**. There will certainly be a core content that everyone needs to learn to be functionally useful and aesthetically able to enjoy life. But there is very much of the detailed syllabii that would be removed because it is impossible in today's and tomorrow's world to know what specific information and know-how each person will need in his or her work place. Already now, and more so in the future, access to information is at one's finger tips Burdening a student with too much information is meaningless when he could get precisely the information he needs when he wants it.

The World Executive's Digest condenses the best management articles worldwide. Already in December '95 its editorial said: "In a world where a seven-year-old has the same access to information that a global corporation has, the adage 'information is power' is about as useful as an old PC-XT computer. In this month's issue, two academics prove that the *critical resource is not information, but the ability to use information to interpret change*".

It is clear that rather than filling a student with much information, what we need to give the student is the ability to access the vast amounts of information available, use that information, understand it, memorise what he needs, and adapt or interpret the given information to his particular need. Schools and colleges will have to create a culture of intellectual stimulation, where students are shown how to keep their brains in peak form and feel the joy of excellence in a world of high technology.

Different Types of Thinking : Left and Right Brain Thinking

The thinking skills that would need to be developed are of two types.

First there are the obvious ones of **mathematical** thinking, **logical** reasoning, **problem solving, clear communication, memorising**, etc. These are the skills that are directly used in understanding new information, working out the logical steps of a process, designing a new or an adapted solution to a given problem, and committing such new information to memory. These are the skills that are directly used in the process of studying a formal course. These types of thinking are measured in the usual IQ tests.

However, there is an entirely different set of thinking skills which is even more important for success in the real world. It is a known fact that typical IQ test scores or college achievement scores have little correlation with actual occupational performance and business success.

Many studies have been done to understand this dichotomy. There is a set of mental skills that count **for success in real life**: things like creativity, an intuitive sense of how to manage the people who work for you; how to build up a reputation and public image in your career, and how to prioritize tasks and allocate your time and other resources.

This is a "**practical intelligence**" that also needs to be developed if our education is to turn out persons who are not just theoretically competent but can translate their **technical** expertise into real life economic success.

These skills are related not so much in solving text book questions as to the ways in which effective executives function in their jobs.

These are related to what has been called "right brain thinking".

Many studies have shown that the brain has two clearly separate hemispheres: the left brain and the right brain.

The **left brain** is what we use very much in today's education system. It controls linear thinking like mathematical or logical thinking, or verbal expression; it is specific and concrete.

The **right brain** on the other hand is neglected in most of today's education. it controls parallel thinking like seeing images, artistic activities like poetry and music and creative visualising of forms and designs, as well as intuitive thinking which is important in interpersonal relations

Developing the left brain and the right brain together strongly enhances the total thinking ability. Our education pattern needs to widen its scope to include right brain activities. This development of artistic and cultural and ethical thinking is also connected to an important recent study on the emotions.

In his best-selling book "Emotional Intelligence", Daniel Goleman presents the research that strongly shows that a person's IQ is not as important for the success in life as the person's EQ (**Emotional Quotient**). The kind of factors involved in one's emotional quotient are self image, a positive appreciation of the good and beautiful in any situation, the ability to grow through failure or disaster rather than being broken by these, and so on. Our education pattern needs to include building up this Emotional Intelligence.

This goes together with a need we pointed out earlier. we have to give students the feeling **thinking is fun**. They have to feel the joy of using their brains. It is a fact that when a student is given a mental exercise that is neither too difficult nor too easy, he or she gets caught up in the process of solving it, and enjoys the experience.

Giving students the chance to exercise their brains is not enough. We need, to highlight two pre-requisites that are important for efficient brain work, but which most are unaware of.

Breathing and the Brain

Many students find that after some time of concentrated thinking (studying, solving problems or tackling a difficult project) their brain begins to feel tired: it refuses to work. It's like sitting in front of the book, but nothing is happening...

This is because when actively thinking, the brain uses up more than 75 per cent of the oxygen we breathe in Most do not take care to maintain proper breathing for effective brain work.

Training to breathe deeply and fully is important for efficient thinking.

Having a break for aerobic exercise during long periods of sedentary mental activity, will be a normal part of learning, of life in the future. However, at present people are quite unused to understanding the place of breathing in brain work, and it will be an important part of our education pattern to make students aware of the importance of proper deep breathing and also to include it in the schedule of the day.

Deep Quieting for Brain Efficiency

Many studies have shown that the greatest heights of creativity, as well as the fastest left brain thinking (mathematical, memorising, decision making and problem solving) are in fact dramatically improved by deep mental quieting. In their book "Super learning" S. Ostrander and L. Schroeder report the findings of Dr. Georgi Lozanov in Russia. Who had spent years studying people with very high mental abilities, yogis with super memory and persons who could instantly calculate with large numbers in their brain.

Instruments showed that at the moment these people performed astonishing mental feats, their bodies were in a state of rest, their brain waves were at a relaxed alpha rhythm (seven to fourteen cycles a second). They did not strain, will, or coerce the mind to function It heppened effortlessly. It actually seemed to happen because physical and mental effort weren't involved.

The using of meditation techniques to quieten the brain for highly efficient study would be an important feature of education in the future.

An Attempt at Teaching Thinking

From 1981 to 1987 St. Xavier's Technical Institute designed and sent mental exercises to over 40 schools in Mumbai. Five types of exercises were designed (logical, mathematical, verbal, visualising and creative), and graded for standards I to X. These were given twice a week through the year.

Regular feedback was taken from the teachers and many reported that students who were considered "bad students" had been the most enthusiastic in the class at solving the exercises given to them. This is understandable since many "troublesome" students are in fact intelligent students who are turned off by the routine drudgery of the classroom They want something that stimulates their thinking. They want to feel the excitement of tackling a problem and finding the answer.

Many teachers noted a marked improvement in academic performance of student who took the mental exercises seriously. This had an additional effect in a clear change in self-image which was seen in changed behaviour of these students.

When St. Xavier's Technical Institute, Mumbai, became autonomous in 1994 "Thinking Skills" was made a formal two credit course which every student has to undergo.

This includes a set of mental exercises of different types done in the class each week plus sessions on how to improve one's memory, proper breathing and techniques for quietening the mind.

Greater Need for Rural and Poor Background Students

One important reason for focussing on the "development of thinking skills" in our education system is the fact that education has been made available to the millions of students who come from a

rural or urban with poor background. However, their teachers, and even the students themselves, have a very low expectation of their ability to learn.

In 1991, St. Xavier's Technical Institute, Mumbai, was asked to provide such mental exercises at a 14-day study camp for a group of children in Nandurbar, a town in north Maharashtra. These were school-going children who came from the surrounding villages and were housed in a hostel run by the Janseva Mandal. A set of exercises sufficient for the 14-day camp were translated into Marathi and sent to them. The children who were normally considered "slow learners" and uninterested in studying, were so excited about solving these exercises that Xavier's was soon asked for more.

Concrete Action Needed

If education in India in the next millennium is to vigorously encourage mental fitness at all levels from Standard. I to post-graduate levels there is need for a **Centre** that would **develop mental exercises** and make these available. The exercises would have to be such as to exercise all the **different types** of activities that the brain does: logical, mathematical, visualising, memorising, etc. These exercises would also have to be graded for various levels.

This Centre would also have to **train teachers** to understand the importance of developing mental fitness. This alone will be a very major activity given the large number of teachers that would require to be trained, and given the fact that few today see the need for developing thinking skills. For this, the Centre will have to work to educate and motivate Colleges of Teacher Training, Boards of Studies of Universities, school level Boards of Education of the different States, etc.

This seems a very large plan but if such an activity is undertaken properly, it will put Indians in an excellent position to compete in a world market where high technology based on agile brains is required for success. Already without such training and with poor technical facilities Indians are proving that they have superior mental ability when it comes to areas like computer software development. With this additional training to sharpen their brains India could be a world leader in high technology.

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Transfer of Learning Between Mathematics and Computer Studies at the Secondary School Level

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Introduction

Acquisition of computer skills by students is closely linked to their acquisition of mathematical skills. It is likely that skills learnt in computer programming may be transferred to other types of problem solving, since it has been noted that computer programming is a type of problem solving. Thorndike has given importance to the notion of 'identical elements' and he stated that transfer is maximized when there are identical stimulus and response sequences in the transfer settings. Mathematics and computer studies seem to have identical elements since the cognitive processes required for learning of both the subjects are identical.

Computer programming consists of building logic and then stating that logic in a computer language such as Basic, COBOL , etc. It is expected that if the young minds are exposed to the discipline of computer studies, it may have some positive effect on their reasoning ability and learning of other subjects like mathematics through transfer.

Objectives of the study

1. To study the effects of computer studies on performance in mathematics.
2. To compare the performance of students of computer studies on the tests of verbal and abstract reasoning with the performance of a matched group of students of the same class who had not undergone a course of computer studies.
3. To predict the performance in computer studies based on a student's marks in mathematics and tests of verbal reasoning and abstract reasoning.

Methodology

Selection of the sample

The sample consisted of 100 students of class 10 from a Secondary School in Delhi. Out of the 100 students, 50 students had undergone the computer course and 50 had not undergone this course. These groups constituted the experimental and the control group, respectively. These were matched on age, sex and class.

Research Design

A pre-post design in a matched group framework was selected for the study. The experimental and control groups were selected based upon marks in Mathematics and English. The groups were equivalent in the group mean and the standard deviation.

Intervening Stage

The experimental groups underwent a course in computer studies for two years along with other school subjects. The experimental groups had a teaching schedule of 3 periods per week for 30 weeks. At least two-thirds of the time was being used for programming and real time experience on the computer. The control group had alternatively been exposed to a normal school curriculum, with commerce as an optional subject.

Post-Test-Stage

After 2 years, the experimental and control groups were compared on their performance in Mathematics and Computer Studies as obtained from the list of marks in the final examination from school records. The experimental and control group students were administered the tests of verbal reasoning after which their performance was compared.

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Controls

Students differences were controlled through age, sex and class All students selected for the study were male students of almost the same age, and studying in the same class.

Variables

The variables in the present study were:

1. Computer Studies
2. Verbal Reasoning
3. Abstract Reasoning
4. Mathematical Skills

1. Computer Studies:

The topics prescribed by the Council for the Indian School Certificate Examination include history of computers, binary state, structure of a computer, flowcharts and simple programs in BASIC Students were also required to display the course work for assessment by a visiting examiner besides the internal examiner.

2. Mathematical skills:

The present study has followed the general definition of mathematical skills as suggested by Kielpatrick, "the ability which is inferred from a person's performance on a mathematical task". A student's marks in mathematics in the school examination were taken as a measure of his mathematical skills

Tests of reasoning

The tests used for measuring verbal and abstract reasoning were the Indian adaptations of the Differential Aptitude Test (DAT) published by 'Manasayan' by special arrangement with the original publisher, The Psychological Corporation, New York Differential Aptitude Tests (revised) were constructed by George K Bennett, Harold S. Seashore and Alexander G. Wesman

3. Test of Verbal Reasoning

There are fifty sentences in this test In each of the fifty sentences, the first word and the last word are omitted, and two blank spaces are provided in their places The subject has to pick out words which will fill the blanks so that the sentences will be true and sensible

4. Test of Abstract Reasoning

In this test, each question consists of a row of four figures called problem figures. These are followed by five designs called answer figures The four problem figures make a series, i.e. they follow each other in a special order. The fifth figure is missing. The subject had to find the right figure out of the five answer figures.

Results

Mean Differences in Mathematics, Verbal and Abstract Reasoning are shown in tables 1 and 2 .

Table No. 1 : Mean, SD and 't' values on marks in Mathematics

Groups	*Pre-test*		*Post-test*	
	Mean	*SD*	*Mean*	*SD*
Experimental Group (N=50)	65.38	11 79	66.71	14.58
Control group (N=50)	65.00	11.67	57.62	12.33
t=	.12	NS	2.18	p<.05

At the pre-test stage, the mean differences on mathematics performance between the experimental and control groups were not significant. The differences were significant between the two groups at the post-test stage.

Table No. 2 includes the results of 't' test analysis on verbal and abstract reasoning.

Table No. 2 : Mean, SD and 't' values on Tests of Reasoning

Variables	*Verbal Reasoning*		*Abstract Reasoning*	
Group	*Mean*	*SD*	*Mean*	*SD*
Experimental Group	30.97	5.74	38.89	5.72
Control Group	29.48	8.32	37.17	6.06
t =	.79	NS	1.12	NS

The results indicated that the experimental group's reasoning did not differ significantly from the control group. It appears that the training in computer studies had little impact on student's reasoning ability.

Table 3 shows the correlation among mathematics verbal reasoning, abstract reasoning and computer studies of the experimental group.

Table No. 3 : Correlation Matrix for Experimental Group

	Maths (Pre-Test)	*Maths (Post Test)*	*Verbal Reasoning*	*Abstract Reasoning*	*Computer Studies*
Maths (Pre-Test)	1.00				
Maths (Post-Test)	0.62**	1.00			
Verbal Reasoning	0.24	0.31	1.00		
Abstract Reasoning	0.09	0.13	0.36**	1.00	
Computer Studies	0.59**	0.73**	0.56**	0.10	1.00

n = 50

** $p < .01$

The above table shows significant correlation between pre-test and the post-test marks in mathematics indicating consistency in performance of the students. The significant correlation between computer studies and mathematics indicates a similarity between the two domains and suggests bi-directional transfer of skills.

Multiple Regression Analysis was carried out for prediction of success in computer studies. The results of the analysis are included in Table 4.

Table No. 4 : Multiple Regression Analysis-Experimental Group
Dependent Variable : Performance in Computer Studies

Independent Variables	*Regression Coefficient Coefficient*	*Multiple Correlation Coefficient*	*t-value of*
Mathematics	0.63		3.47*
Verbal Reasoning	1.21	0.74	2.99*
Abstract Reasoning	-0.05		-0.12

$p < .01$

Results revealed that the value of multiple R was 0.74, which is highly significant. The regrssion coefficients were significant for mathematics and computer studies. The above table suggests that success in computer studies is contingent relatively more on applied and concreate skills like verbal reasoning than on the abstract skills. Abstract skills were not used much in the introductory course in computer studies.

Conclusion

The study indicates the existence of transfer effects of computer studies on mathematics. The results are meaningful from the perspective of learning in two ways, namely transfer of learning across skills, and the effect of computer aided instruction in learning of mathematics (Hatfield, 1979; Bridges, 1985).

The findings of the study are in conformity with the findings of some studies which have reported significant relationship between computer science and mathematics, indicating occurrence of transfer (Peterson and Howe, 1979; Ralston and Shaw, 1980; Konvalina, Wileman and Stephens 1981; Soloway, Lockhead and Clements, 1982; Roberts and Moore, 1984; Bridges, 1985).

The findings of the study suggest that the cognitive style and learning style for the two subjects are identical to some extent. The education implications are that both the subject should be taught with emphasis on transfer of learning.

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Knowledge Networks : The Learning System In The Next Millennium

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Introduction

Over the last few decades, computers and communication technologies have had a significant impact the ways in which we learn, teach, communicate and gain access to information. The significance of the role played by computer-based technologies in education and training is likely to increase quite considerably. Earlier, computers and communication technologies in education concentrated on individualized instruction involving computer assisted learning and computer-based training. Whereas, the recent developments in educational technology call for a more holistic and 'integrated' models and approaches to educational process in particular the settings. Latest techniques like electronic lectures, collaborative learning and teaching, tele-teaching, student self-assessment through automated interactive online testing, use of digital resource libraries, and access to Internet and the World Wide Web would be the educational tools and techniques in the near future.

Learning In The Information Era

Higher education, world over, is undergoing a paradigm shift from an instruction-centred model to a learner-centred integrated network model based on access to learning resources and student initiative. The new instructional technologies have brought changes in pedagogy and curriculum content and have been instrumental in increased academic productivity and teaching effectiveness.

The recent developments in computer technology and telecommunications have brought about a revolutionary change in human life more far-reaching and profounds than any other discovery of the past. Cornish (1996) in his examination of "Cyber future" foresees the following possibilities in the field of education.

1. The education experience will be dramatically enhanced by multimedia, computer simulation, virtual reality and other teaching tools.
2. There will be a boon in packaged educational products.
3. Tremendous increase in knowledge available in libraries and databases will bring to the fore front the critical question as to what a student really needs to learn.
4. An incredible amount of information will be available to students writing term papers.
5. Global Universities will emerge, bringing together students and faculty from many nations via computer networks, satellite television and other advances.
6. Infotech alone will not ensure good education. Teachers will continue to be needed.
7. Teachers may resist infotech in education when it threatens their jobs and privileges.
8. Infotech will allow students to take courses at their own pace and get credit whenever they have mastered the material.

Distance learning/education has been a major beneficiary of developments in information technology. Introduction of interactive video-communication, teleconferencing and new online discussions on Internet have facilitated the distance learning for groups at off-campus locations and gave rise to the distributed classroom model. Today, workplace learning is encouraged and there are many commercial providers of instructional materials. CDROMs, multimedia, virtual classroom, split-site courses, video desktops etc., promise interesting possibilities in formal and non formal educational streams.

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Internet and Higher Education

Internet and infohighways are going to have a major impact on the way education is to be imparted and the research to be carried out. Internet is likely to succeed as a vehicle for real education which can help creation of new course material that are superior to traditional case studies and make room for the process of conversational learning in electronic form. Interaction through e-mail, voicemail, video conferencing, bulletin boards, electronic conference on Internet have been the order of the day. Thus the Internet has a unique ability to complement, reinforce and enhance many of the traditional approaches to university teaching and learning. Let us view here the impact of infohighway on the basic elements in education and research.

Instruction

Information highways have brought about a revolution in instructional technology. Resources available on Internet and other information networks not only can replace a considerable portion of classroom teaching but can also improve the quality of perceptions and level of comprehension in quest for knowledge through various computer applications. It is now possible to provide two way interactive communication in imparting distance education/instruction. One can take classroom lessons anywhere and interact in a virtual campus situation.

Interaction

Academic and scientific interactions that enhance and ensure quality of education and research have been experiencing revolutionary changes due to setting up of infohighways. We are moving towards a global village Information highways have brought people together and one can communicate at much faster pace and in a better way accross the globe. People can "meet" each other on the net by using e-mail, voicemail, video conferencing, bulletin boards, user groups and discussion groups. Electronic conferences on Internet have become the reality.

Information

Many databases, databanks, and full text information sources are available on CDROM, Internet and other networks. Information highways have brought the large store houses of knowledge and libraries into living rooms. Scientific journals, international conferences and events are instantly available on Internet. The Infohighways facilitate sharing of experiences and innovations world over. Time and cost of communicating the results innovation have been reduced considerably.

Invention and Innovation

Creation of new knowledge and combination and applications of existing knowledge are the primary objective of research. Infohighways facilitate effective sharing of experiences and innovations. They also facilitate inventions by making key inputs like information, expertise, methodology and techniques available to the researchers.

With these advancements in education systems and knowledge networks, the student centered classroom calls for the change in role of a teacher from instructor to facilitator and coach. This perhaps will help the students to improve their creative thinking and analystical skills on the one hand and collaborative and integrative approaches on the other.

Electronic Course Delivery

The changing nature of computing and communication technologies has critical implications for future delivery of education. Various sorts of educational system ensure that the new knowledge gets passed on to new generations for producing competitive work force. As the formal education ceases after the onset of adult life, there is a vast industry developing in the area of post compulsory education to

support leisure activities, entertainment or career development and enhancement. In this situation, the electronic course delivery has much to offer in terms of efficiency and effectiveness of knowledge transfer in the context of both conventional and post compulsory education. The electronic course delivery deals with new ways of making teaching and learning resources available in electronic form for improving the quality of lecture presentations and making available lecture material as a self study resource for open and distance learning.

Historically, there have been four significant advances in communication technology to facilitate knowledge transfer. These have involved the development of :

1. Various aids to facilitate reading and writing activities;
2. Printing/Photocopying for the mass distribution of information;
3. Radio and TV broadcasting for the global dissemination of non-interactive, non-print material; and
4. Use of computers for the realization of interactive information systems.

Now there is a move towards the global sharing of electronic information and knowledge resources through the use of "Information superhighways". This obviously calls for creation of technologies that support knowledge sharing. In view of the limitations of traditional teaching methods, the electronic course delivery is a viable alternate delivery machanism to facilitate the efficient and cost effective presentation of learning and training resources within the context of university and or college. As the electronic course delivery platforms to support and enhance individual or group teaching and learning experiences, the underlying Machanism to facilitate the efficient and cost effective presentation of learning and training resources within the context of university and collegea As the electronic coursed delivery areas of electronic lectures, mechanism to facilitate lectures on demand, the teleteaching , teletutoring and collaborative learning at distance, and support facilities like electronic libraries need to be addressed. For successful delivery of electronic course material and efficient use of knowledge networks for sharing knowledge, both inter-departmental co-operation and collaboration as well as institutional commitment to the use of computer based technology are required.

Knowledge Networks And Higher Education In India

India is endowed with one of the largest trained and skilled manpower resources in educational technology, computer, communication and information technology which has been used for developing many of the technology based learning systems. While educational technology in India has been trying to make use of modern developments in communication technologies and the media, the fact remains that it has still a long way to go to reach the levels attained by many advanced countries. Basic infrastructure and supportive sub-systems need considerable strengthening. New experiments, creative innovations and appropriate strategies have to be developed and tried out to improve access to education and reorient the content and process of higher education to render it relevant and meaningful. The emphasis should be on renewal, reinvigoration, and revitalisation of the entire system of education through application of latest and sophisticated educational technology and media. There is a need to have many INSAT Systems and super infohighways to use the knowledge networks in higher education. Universities have to introduce these new technologies with adequate funding for establishing the system and its maintenance. We may see in future, privatisation of communication services which may be of substantial help in improving both the access and the quality of information to a considerable extent.

It is essential now, the institutions of higher learning should make efforts in establishing Educational Technology and Instructional Material Development Laboratories and encourage technology based learning. Campus networks, access to external networks, learning Resource Laboratories, etc., have to be established to create a real virtual campus for effective teaching and learning. To achieve excellence in our efforts, the knowledge networks would meet the needs of all for the knowledge , gathered from whomever and wherever in a packaged form for instant use. As tomorrow's economy will revolve around innovatively assembled brain power the knowledge networks would be a major step forward in gearing Universities to the national priorities and growth needs.

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Skill Oriented Agricultural Education for Self-Employment

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Agricultural development is essential both for producing more food and for ensuring access to food through employment creation and income growth. In India, it has specific significance because India is basically an agricultural country. Our country has achieved a rapid progress in agricultural sector due to the introduction of modern agricultural management systems during the Green Revolution Era. In order to reach the food grains targets of over 225 million tonnes by the year 2000 AD, Education, Research and Extension are to be strengthened and streamlined.

The effectiveness of further development of the Nation would depend on the strength of agriculture. The real and great challenge we face today, therefore, lies in the sphere of agricultural education. The agricultural education in its broadest sense covers all human endeavors in the acquisition, transmission and absorption of knowledge of the better means and understanding of the process which lead to the scientific farming; it covers all the basic needs of the human beings like food, clothing and shelter. The present rate of agriculture production could be doubled if the available technologies are brought to bear with the production process and programmes thus focusing more and more on transferring our new technologies to the farmers. A big gap exists between the yield level achieved in research station, demonstration farms and progressive farmers field on the one hand, and the averge yield at village level on the other. It has been estimated that only about 30 per cent of the technologies available are being used by the farmers. This calls the strength of transfer of technology programmes. There is a need to develop a consciousness towards agriculture at all levels of education and training. No other education is of greater importance to our country than the agricultural education for achieving a high level of competence in the farmer, scientist, extension worker and the administrator.

With the rapid development of agriculture in our country during recent years, need has arisen to improve the agricultural education to suit the changing conditions. Adhoc methods to cope up with the immediate problems have necessarily to be replaced by a long-term approach which may improve agricultural education recognising the basic fact that farming provides better avenue of employment. Achieving a high level competence in those to be trained at various levels of agricultural education, therefore, forms a major task of the present stage of our development.

Agricultural Education in India

Agricultural education though forms a back bone for the development, the required importance is not given by the society and, therefore, by the Government. This may be due to more of population depending on the agriculture with more than the required level of labour force and the lack of attention shown towards agriculture. The country is moving towards industrialisation, much importance and employment opportunities are available to medicine and engineering courses. However, the threat of environmental pollution will direct our nation from industrialisation to agriculture in the next millennium.

The agriculture education is given in schools at higher secondary level as vocational course. After the higher secondary level, four degree programmes on agriculture and allied subjects are offered in 28 universities. There are masters and doctoral degree programmes in all the universities to produce graduates for research and development. The Indian Council of Agricultural Research, New Delhi coordinates all State Agricultural Universities to a certain extent. The recent reports of deans commitee suggested common pattern of education in all the SAUs to produce the graduates to suit the national development. The ICAR also extends financial support to improve the educational facilities. Nearly

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15,000 agricultural graduates are produced every year. Of which, 50 per cent of them go for higher studies and the rest of them go for extension activities or self-employment.

At the postgraduate level, there is better coordination between SAUs and ICAR institutions which help in producing the need-based production of scientists. However, at an undergraduate level, there is a need for greater attention on curriculum development. At present, all the undergraduate degree programmes are offered for four years. This involves class room teaching combined with practical aspects. The proportion of theory and practical varies among universities. Agriculture being a fast developing science, practical aspects are to be given much importance than the theoretical portions. The curriculum in general includes crop production, crop improvement, crop protection combined with agricultural business and extension knowledge. The students are trained in crop cultivation for a specific period and exposed to rural agricultural work experience. The period of such practical experience varies according to the universities. In general, it is felt that the agricultural graduates do better theoretically and lack practical knowledge. This is the comment received from administrative authorities at national and international levels who interviewed the graduates.

Need-bsed Education

The Tamil Nadu Agricultural University has taken steps to upgrade the education to suit the needs of the society. The issues are discussed at teaching faculty level, in Board of Studies, Academic Council and Board of Management. The required changes are incorporated in the curriculum to produce a high quality and marketable graduate. These changes are further fine- tuned with the help of interaction with the educational experts at national and international levels. The curriculum for undergraduate programme had undergone major change in 1980s by introducing programmes like village stay programme, study tours, commercial agriculture, agro-industrial tie-up programme and strengthening the plot cultivation aspects.

1. Village Stay Programme

The stay programme, is an important component of undergraduate curriculum which was introduced in 1984 with the view to provide direct farming experience to the students. The students were placed in villages for a one-month period during the final year programme in order to relate the subjects studied to the actual farming and to analyse the problems in adopting the scientific farming. The interaction with the University of Western Sydney, Hawkesbury, Australia commenced in 1992 paved way for introducing the Experiential learning system at undergraduate level. As a part of Experiential Learning, the village stay programme under Rural Agricultural Work Experience (RAWE) has been shifted from final year to second year of the degree with the view to understand the rural agriculture situation before getting the subject knowledge. This will help the students to relate the experiences gained in the real agriculture situation to the subjects to be studied in the university. Further, it will kindle the students to think of the problems in adopting scientific agriculture. The duration of the village stay programme has been increased from one month to three months which provides sufficient time to learn the cropping pattern and associated environment. The students with their host farmers involve in various agricultural operations like ploughing with country plough and tractors, weeding, irrigation, harvesting and threshing.

The students admitted in 1995 doing their II B.Sc. (Ag.) have been trained in the new system of village stay programme. The results on the performance of the students reveal that the new system of education has a remarkable change in the learning process. The students acquired the skills to learn the various practices by observation and practical work besides learning the way to interact with public which will be useful for their future career. The students are also given a stipend of Rs. 250/- per month. The Indian Council of Agricultural Research has been requested to increase the stipend amount in order to enthuse the students for more effective learning.

2. Crop Production Courses

The students of third-year degree are taking up Crop Production courses wherein they take all the operations of crop production from seed to harvest in three crops representing wet, garden and dry land, respectively, which creates a situation of scientific learning of crop production. The students would

compare the process of crop production followed with the one they learnt during the village stay programme. All the necessary facilities are provided to take crop production courses including land preparation to harvesting/thrashing. The students compute the cost benefit ratio and the monetary profits achieved are taken to them.

3. Commercial Agriculture

The students are given an option to choose any one of the following seven commercial courses to make themselves thorough in the technology.

1. Mushroom and spawn production
2. Biofertilizer production
3. Broiler production
4. Biocontrol agents production
5. Horticultural nursery technology
6. Seed production
7. New food product developments

Though the facilities are limited to provide opportunities to individual students to do the production technology, necessary steps are taken up to create facilities in all the teaching campuses under Agricultural Human Resources Development Project. Based on the needs of the day, new courses will be offered as and when required with the view to enthuse the students to become self-employed after their graduation.

4. Agro-industrial Tie-up Programme

The course is introduced with the aim of enhancing the opportunities for interaction to the students with agro-industries. Though the students visit agro-industries during their village stay programme, regular practical classes and study tour programmes, they will have sufficient time for learning the various process from procuring raw materials to selling the final products. The students are given two weeks time exclusively for this purpose. They would associate in the allotted industries to understand the management aspects. This would help them to find out a suitable position either as an employee after their graduation or to start similar industries with the help of financial assistance from nationalised banks.

5. Computer Application

The students are taught about computer application in agriculture. At present, students work in groups as the number of pieces of computer is limited. It is proposed to create a computer science laboratory in all the teaching campuses under the Agricultural Human Resources Development Project, which will provide opportunities to all the students individually.

6. Farm Machinery

The implements and equipments used under farming situations are taught to students in courses of agricultural engineering. They learn the tractor driving, operation of sprayers of pesticide applications, use of harvesters and thrashers, etc.

As such, the students of Agriculture are learning well on basic issues of science and technology. However, they did not possess self-confidence in starting agro-industries or commercial crop production of commercial horticulture. The present system under Rural Agricultural Work Experience expose the students very well to learn the indigenous technology from farmers, and also they were able to analysis crop production, small industries related to agriculture by themselves so as to gain on-the-spot experience when handling unique situations at village level. Similarly, the commercial courses offered to a group of eight to ten students impart significant knowledge as well as practical hands-on- training on particular issues in agriculture. This approach in recent times has proven to be a very strong influence among students' to start new ventures in agriculture on their own. The agro-industry tie-up programme which is integrated in the curriculum has given an opportunity to the students to learn and plan for small scale agribusiness on their own with financial assistance from nationalised banks. An intensive practical course on crop production for third-year agriculture student has given the students an enormous strength to interact as a group as well as individually for gaining more practice as well as an in-depth knowledge.

This approach would certainly create self-confidence among the students. Largely hand-on training, not only impart self-confidence to deal with agriculture situation, but also essentially help in shaping the students in personality development. In short, more number of commercial courses would certainly create self awareness of the student to learn the practical aspects thoroughly coupled with specific knowledge.

Future Thrust

It is now recognised widely that agriculture affords unlimited opportunities for improvement through well-trained men and women, and the only way to do so is by lifting agriculture to a highly technical business involving scientific knowledge and management ability. Our success will depend on our ability to attract talented youth to agriculture, the resourcefulness with which we train them and the zeal, vision and dedication that we insist in them. Manpower training in agriculture is very vital, which will directly reflect in agriculture progress; development manpower training programmes at all levels today would determine the quality of all work and progress in agricultural sector tomorrow. With inadequate agriculture education, the very spinning board for progressive improvement in any of the branches of agriculture production, administrative understanding and real advancement would not be possible.

Strategies and Directions for Improving Agricultural Education

Teacher Competence

In order to implement the latest developments, teachers are to be exposed to seminars, workshops, training in specialised fields periodically at national and international levels.

Interstate Mobility of Teachers and Students

The problem of in-breeding of teachers and students has to be overcome by planning the interstate exchange of students and teachers for a short period among State Agricultural Universities (SAUs). This kind of movement helps in exchanging the views in scientific developments and improve the standard of teaching.

Manpower Assessment at the State, SAU and Central Levels

The manpower requirement for the state and the country has to be considered critically which shall be assessed by the Committee to be constituted for the purpose. The Committee shall assess the need and type of graduates. Based on the recommendations, the SAUs shall restructure the curricula and policy.

Agricultural Education Technology

The teachers in SAUs are recruited directly after graduation without any exposure to teaching methods. Establishment of a cell for Educational Technology will aid in training the maiden teachers before they take up the assignments.

Regulation and Accreditation of Agricultural Education

The ICAR, the apex body governing agricultural education, research and extension in the country plays a major role in coordinating all the three activities. The system of education in SAUs varies greatly in different parts of the country which may hinder the interstate mobility. Establishment of an apex body exclusively for education will be of immense need for strengthening the agricultural education.

Instructional Facilities

This very critical aspect is to be viewed seriously for uplifting the educational wing. The infrastructural facilities for teaching agriculture are to be developed in a massive way. Since the facilities are lacking, the course is oriented mostly towards theoretical aspects. Being a technological course, the students are to be provided with more facilities for doing practicals individually, helping them to gain self-confidence. The class rooms will have to be equipped with modern teaching gadgets having all audio-visual aids. The outmoded equipments and instruments are to be replaced with latest time saving instruments. Computer facilities have to be expanded in a big way so that the students shall learn and acquire knowlede and information themselves.

Text Books for U.G. Education

At present there is no separate text book for any of the courses at undergraduate levels. Teachers deliver the lectures based on many reference and the students follow them by taking notes. New schemes are to be opened to facilitate the teachers to write textbooks for undergraduate education.

Library and Information Services

In the modern world communication, library and information services are to be developed to enable them have linkages with important agricultural institutes located all over the world.

Curricula

The curricula is to be revised as and when based on the needs of the society. With the help of manpower assessment committee and the ICAR, the curricula shall be structured to suit the needs of the day.

Management Systems

Management systems have to be planned in implementing the need-based changes and effective implementation of educational schemes in time so as to achieve the desired goal.

Reorientation of ICAR Support System in Agricultural Education

The Government of India hase announced that six per cent of the budget is allocated for education. Taking this situation favourably, the apex body shall extend the financial support for the development of infrastructural facilities, promoting teachers' competence and regulation of educational system throughout the country.

Developing Policy Framework

The agricultural education policies considering the nation as a whole are to be carefully planned keeping the future in mind. The policies should have long term as well as short term schemes to adapt according to the situation.

Conclusion

The future emphasis in agricultural education, therefore, should be on the development of broadly applicable, transferable skills and attributes useful to students in a wide range of jobs in agriculture. As a result of continuous research and changing agricultural development scenario, the agricultural sciences have become highly complex and specialised. It is not possible for a single graduate to master everything. The degree programmes are rather general in nature, aimed at giving an insight into the scientific and technical processes of agriculture. However, students' understanding and comprehension

of `agriculture' as a dynamic and integrated production system were not clearly and adequately explained. All students, whether they will work later either as generalists or as specialists, must learn to appreciate that agriculture as well as rural development, represent broad and complex systems. Due to the overall comprehension of various broad components of agriculture and related areas, the farm graduates excel in many research and development, and rural development programmes.

Child Labour - A Hurdle for Full Literacy

Anjali Khirwadkar[1]
Milind Sahasrabuddhe[2]

Children are considered as future citizens of any nation. The future progress of a nation lies in all round development of children as they only would contribute for nation's economic development. For this, it is necessary that the children should get proper grooming in form of good nourishment and proper education as it would help them to be healthy and intellectual citizens but when country is in clutch of poverty, illiteracy and high population growth, the future of children becomes dismal. They, instead of pursuing education, have to go for compulsory earning which hampers their progress and thus a country faces problem of child labour and India is one of these nations.

Child-labour refers to the employment of the children and the utilization of their productive abilities for the economic gain of others, which adversely affects their psychological and physical development at an early age of their life.

Children participate money earning activities of different types such as -

1. Some children are self employed.
2. Some are paid on the basis of hour/pieces produced.
3. Apprentices employed in order to see that a skill will eventually be mastered by them.
4. Children assisting adults who are accountable to their employers.
5. Children who help their family members in family occupations, without getting any direct individual returns.

The pledging of labour continued till the beginning of 20th century and the industrial revolution in the West, made child labour more visible. It destroyed the village and house hold industries making, those poor people who were engaged in these activities.

Extreme poverty mainly, due to the large size of families leads to a situation where the children were pushed to the labour markets. Many societies developed the opinion "it was not for the family to support the child rather it was for the child to support the family". (Kothari Samithi, 1993).

Child Labour and Primary Education

The Constitution (Article 45) states the commitment of the state to provide free and compulsory education for the children up to 14 years within 10 years. But those ten years have passed long back and we failed to achieve our goal. In 1986, NPE shifted the age structure to 11 years old children. Then goal of "Education for All" was set to be achieved till 1995. (Revised to 2000 AD) for children upto 14 years. Special clauses are now included for primary school enactment, are retention and quality improvement.

Although, much is talked about for ensuring attendance and quality, the fact is that 48% of the population is illiterate in India, 24 million in the age group of 6-14 years are not in school, more females drop out and only an estimated 52% school children reach up to grade V (UNICEF, 1994).

High rate of dropouts ultimately becomes one of the important reasons for mounting number of illiterates in this country. Here in this regard, one thing needs to be noted that dropout is caused by poverty also, besides other factors. Poverty compels children to earn rather than to learn. Earning substitutes learning. Though education is free at primary level, it does not become free in real sense for poor class children because although, they need not pay for any direct cost, "opportunity cost" is too high for them to bear. Parents either due to poverty or due to lack of enough awareness, do not show much inclination for their children's education. Thus, education which can ensure better future prospects remains distant dream for them. Therefore, it is necessary to see that child-labour gets abolished so that children who are not getting benefits of education, can enjoy them for their better future.

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Child labour is an economic issue, concerned with the educational problems and legislation alone cannot make the children free from the severe exploitation and place them in schools.

Findings of the Operation Research Group, Baroda, (1983) came up with an estimate of 44 million working children in India. This figure is based on an All India child labour sample survey conducted by ORG in 1980-81.

Nearly 87% of child labour is engaged in an agricultural sector. They are also engaged for packing pasting, labelling etc. Estimates of child labourers vary between 17.36 million (NSS, 1983) to 44 million (ORG, 1993).

The alarming magnitude of child-labour makes one think as to what provisions the government has provided for these children.

Laws, Legislation's and Child Labour

The tender age of children should not be wasted and further citizens should not be compelled to enter vocations unsuited to their age and strength. (Article 39 (f).)

Children should be given opportunities and facilities to develop in a healthy manner and in conditions of freedom and dignity and that childhood and youth are protected against morale and material abandonment.

The state shall endeavour to provide for free and compulsory education for all children until they complete the age of 14 years.

To prohibit child labour, a single comprehensive act was introduced in the form of bill and emerged as child labour prohibition and regulation Act 1986. Despite such constitutional provisions and more than a dozen laws prohibiting child labours, socio-economic pressures and apathy on part of every one concerned have led to heavy exploitation of children for different type of manual labour work.

Unorganized sector is a matter of serious concern because hidden child labourers exist over there. But legislations (employment of child Act 1938, Factories Act 1949, Construction Act Article 14, Prohibition and Regulation Act 1989, Child Labour Act, 1987, etc.) geared to the protection of the employed child pertaining to about only 15% in the organized sector, (I.L.O., UNICEF, 1994).

Another issue is that of condition in which children continue to work despite of various laws, especially if the work is a traditional family occupation[2].

Large number of children are employed in the agricultural sector. Statistics show that 76% of them are absorbed in agricultural operations in rural areas.

Sex differences between the children is an important factor in nature of employment. The employment of boys and girls in different occupations differs from region to region.

The phenomenon of child labour not only seals the destiny of millions of children but it also adversely affects and restricts the future developmental prospects of these children. The continuation of child-labour is posing a serious threat to development all over the world. The chances of child-labour blossoming into full fledged citizens are very gloomy as they would grow as suppressed citizens-physically, socially, economically, mentally and culturally.

Although, Child Labour Prohibition and Regulation Act 1986 prohibits child employment in night shifts and dangerous environment, working at ports, bidi, cement, match making with the minimum age stipulated according to ILO convention.

Efforts Made for Compulsory Education

The Program of Action 1992 calls for strengthening of educational management and cost effectiveness. The total literacy campaign which has been successful in 30 districts of eight states is one such program which indicates a break-through in literacy sustenance

Inspite of the lag in schooling, the government is going ahead with plan of actions. Experiments like operation black board, subsidies, increase in the number of teachers, importance given to pre-school education in early childhood care (especially in the ICDS which is expected to cover 80% of the population by the end of the 8th plan) and reducing wastage to minimum.

Further strategies in the 8th plan are to use a desegregated and decentralized approach using the convergence models of rural development. These are plans to enlarge the scale of participation of private

organizations. Experimental attempts by private organization are undertaken to encourage school going children, who are usually "hidden" unpaid family labourers in rural/tribal occupations. The M.V. Foundation of Venkat Ranga Reddy district in Andhra Pradesh, has weaned away 4000 children from family occupations and are happily going to school.

Many national programs in pre-school development (The ICDS/Crèche programs for instance) are to encourage preschoolers to continue into primary schools and stay on.

Another strategy is to provide non-formal education at home/work sites. This advantage of encouraging the child to get education at places of their convenience.

Efforts Made by the Government

The Government has launched a five year action plan for the elimination of child labour with the assistance of ILO which is to operate projects through 30 NGO's. The plan proposes to take areas identified as child labour intensive : Tamilnadu, Gujarat, Rajasthan, Bihar, Jammu & Kashmir. It covers 30,000 child workers in the first phase with 12 special schools.

Government is also trying to remodel the educational system to make it open, flexible, attractive and relevant to the subject so that there is a three pronged effort : prohibiting child labour, providing facilities at work place and making education stimulating.

Among wide ranging Articles of UN Convention on the Rights of the Child, (CRS) the Articles 28 and 29 focuses attention on rights to Education.

To attain the goal of UEE, realistic assessment of the causes responsible for both the low enrollment and high dropout rate is needed. Data collected by National Sample Survey (forty second round) 1986-87 in this regard indicates that :

- about 1/3rd to 1/2 of the out of school children found school either boring, irrelevant or threatening.
- Almost 40-45% of the out of school children have to stay away from school due to economic compulsion and the demands of the home.

An alternative which would constitute the framework of an effective strategy for moving towards UEE would be to take into account the holistic nature of education with children at the centre of the learning process :

- The primary role of education to empower the child through a liberative process.
- Linking productive work to the learning process, as powerful way of making education socially meaningful to the lives of the majority of our children, particularly at the upper primary and secondary stage.
- Making early childhood care and education as an essential component of UEE because it would prepare young children for school and help in sensitizing the whole process of planning at the elementary level through its child centred approach.
- Striving for the fullest development of the human potential of the child taking into consideration socio-cultural diversity and implying a shift from viewing the child merely as a national resource.

Following are some of the measures to make children free from labour and pursue them for education.

(1) To use innovative measures to pursue parents from poor sections of society to send their children to schools for their better future prospects.
(2) To make learning attractive and joyful through restructuring of content and methodology.
(3) To identify successful, effective cost models for their replicability under better future prospects.
(4) To create awareness to discourage child labour as it curbs child's' basic potentials for acquiring knowledge and skills and right to enjoy childhood too.
(5) To provide vocational education hence children would acquire such skills which can help them to earn for their livelihood in future.
(6) To evolve strategies to provide non-formal education to children of deprived sections of the society.

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Tourism Education:Its relevance in 21st century India

Dev Malya Dutta[1]

Introduction

Tourism is emerging as the most thriving industry in India. It is the third largest foreign exchange earner for the country after ready-made garments and gem and jewellery. In 1996, 4.5 million tourists visited South Asia, out of which India alone accounted for 51 per cent of total arrivals and 77 per cent of total receipts.

The contribution of domestic tourists in the growth of tourism industry is also a noteworthy factor. The infrastructural development and economic growth of the country; combined with the emergence of a vibrant and strong Indian middle class population after the mid 1980's, have brightened the prospect of domestic tourism in the country. It is expected that the domestic tourist visits would grow at an annual rate of growth of above 9.5 per cent. The number of domestic tourists visiting different tourist destinations in India is estimated to be around 170 million by the turn of the century.

The phenomenal growth of tourism industry in India has brought about a tremendous boom to the Indian hoteliers not only in the metros of India, but also in other travel destinations in India.

In India other ancillary services of tourism business viz. tour operators, travel agencies, airlines, passport and visa services, souvenir and handicraft retail business, catering and entertainment services are also reaping the benefits of this sector, too.

However, the sudden boom in the activities of this particular branch of service industry has created an acute shortage of trained manpower. A large number of hotels, ancillary services and the tourist offices are manned by semi-skilled work force with a few exceptions. The lack of trained personnel has deprived the tourists, both foreign and domestic, of quality services. As a result it is now being felt by the tourism planners in India, both in the government and private sectors, that a proper tourism education policy should be adopted in India at the down of the 21st century to handle about 5 million international and 170 million domestic tourists.

Present Tourism Education Scenario in India

The World Tourism Organisation has realised the fact that the absence of trained manpower in many countries is a major impediment to the growth of tourism business. Thus, it has accorded a top priority to the human resource development in this sector. A study report on 'Economic Impact of Tourism in India' conducted by the Economic and Social Commission for Asia and Pacific (ESCAP) reveals that 1.2 international tourist visit provides employment to one person for a year. Similarly one person gets a job from the visit of 17 domestic tourists. The forecasts of direct employment in the tourism sector during 9th plan period based on the employment ratios and projections of tourist traffic have been worked out and is given below in the following table:

Table 1 : Forecasts of Direct Employment in the Tourism Sector during Ninth Plan Period

Year	Employment Trend Estimate	Generation Modified Estimate	(Million) NAPT Projection
1996-97	09.15	09.19	09.44
1997-98	09.91	09.99	10.48
1998-99	10.81	10.92	11.74
1999-2000	11,77	11.93	12.96
2000-2001	12.80	13.00	14.17

Source: Bagri, Dr. S.C., Tourism and Travel Education in India: opportunities and challenges, University News, New Delhi.

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Keeping in view the need of the Tourism sector in India to be managed professionally and efficiently; the tourism planners, both in the government and private sectors, realised the importance of the tourism education in a systematic manner in the late 1970's. The Government of India under its Ministry of Tourism established the Indian Institute of Tourism and Travel Management (I.I.T.T.M.) in January 1983 as a registered Society for teaching and research in tourism and travel management. However, in 1969 the preparation of the initial blue print for setting up an Institute of Tourism and Travel Management in India was prepared by a Technical Mission of UNDP led by Dr. Timothy J. Driscoll. Impetus to the growth of tourism education received further support from the National Committee on Tourism in 1988. This committee in its report in May 1988 gave following recommendations to the Government of India :

(i) I.I.T.T.M. should be effectively developed to enable it to perform its assigned role
(ii) It should be reconstituted by a resolution of the Government to enable it to function effectively as an apex body in the tourism education development; and to empower it to award Diplomas and Degrees.
(iii) Full time management courses should be taken up in the existing universities. This is an area where we should draw a lesson from the developed countries, who have introduced courses in the universities and institutes.

Tourism education in India also received encouragement from the National Action Plan for Tourism announced in May 1992. This action plan stated that I.I.T.T.M. should be strengthened in staff and equipments to become the premier institution for providing trained manpower for this industry. National universities should also be involved in this effort, and would be given financial and other assistance for introducing tourism courses in India.

As a result of these measures, I.I.T.T.M. at its Gwalior campus has started full time course in Tourism Management (14 months) and Destination Management (8 months); since the academic year 1995-96. These courses have been recognised by the AICTE.

Apart from the courses on Tourism management run by the I.I.T.T.M., a large number of Indian Universities have started tourism education at the Master Degree and Post Graduate Diploma levels. Notable among them are the universities of Gwalior, Kurukshetra, Aligarh Muslim University, Jodhpur, Pondicherry, Sagar, Indore etc.

Further, I.I.T.T.M as the nodal institute in the spread of tourism education in India, is imparting various training and short term programmes related to the ancillary services of the tourism sector. It is conducting courses in Ticketing and Cargo Management in collaboration with the Air India staff college, Bombay;water training programme in collaboration with the National Institute of water sports, Goa; Airlines Management etc.

The two most important tourism activities are accommodation and hospitality; and travel trade. Hence, the manpower development for tourism industry can not be confined to tourism education and training imparted by the national level institutes and universities only. With this objective in mind the tourism planners in India both in the government and the private sectors have started Hotel Management, Catering and Nutrition Institutes.

In order to train the personnel at supervisory, middle management and craft levels, the Government of India's Department of Food in the Ministry of Agriculture set up four Institutes of Hotel Management, Catering Technology and Applied Nutrition at New Delhi, Bombay, Madras and Calcutta between 1962 and 1964. Moreover, in order to meet the training requirements at craft levels in specific disciplines 12 food craft institutes were also set up at different locations in the country. Apart from these institutes, Welcome, Taj and Oberoi group of hotels are also running their hotel management institutes in the private sector.

Thus, at present there are 20 institutes of Hotel Management and 13 Food Craft Institutes functioning in the country. It is expected that by the completion of 8th Five Year Plan we would have around 80,000 classified hotel rooms. Keeping a room to employee ratio of 1:5, the additional requirement for trained manpower would be around 45,000. The total turn out from all the hotel and catering technology schools in India is, thus, about 5,000 students per year. As against this figure, the actual requirement per year is about 20,000 persons, assuming that one additional room would require at least one trained person.

Outcome of the present Tourism Education in India

A thorough study of the existing tourism and its ancillary services education system in India brings to the light following shortcomings:

(i) Tourism industry in India having tremendous scope of employment opportunity is still going to suffer from the lack of trained manpower in the coming years as there is going to be a wide gap between the demand and supply of well trained manpower.

(ii) There is a lack of trained teachers and researchers in the field of existing tourism education in India.

(iii) There is a complete lack of teaching materials, books, journals and other equipments in the field of tourism education in India.

(iv) There is absence of the process of technical upgradation of the existing tourism institutes and university departments.

(v) There exists a lack of understanding and interaction between tourism faculty members, students on the one hand and the industry people on the other.

(vi) Lack of training facilities for the state government tourism officials in India, as a result, often tourists face awkward moments in these offices.

(vii) A number of Indian universities have started vocational courses in tourism at Bachelor degree level in its colleges, but do not have provision for further studies at Master degree level for the Bachelor degree holders in tourism.

(viii) The universities, which are running MTA courses in India, are situated mostly in developed states of India from tourism point of view. However, the states in eastern and north-eastern part of India inspite of having tourism potentials do not have tourism education institutes or university departments.

(ix) Many state governments of India are yet to realise the potential of Tourism as an important factor of economic development of their states, and still running their tourist offices and tourism development corporations through semi-skilled workers and state level bureaucrats instead of through trained tourism management degree holders or hotel management diploma holders. Thus, their tourism corporations are running into heavy losses.

(x) In the absence of proper tourism education, a large number of socio-cultural vices, which are corollaries of tourism activities like, drug abuse, prostitution etc; have taken roots in the many tourist destinations in India.

Relevance of Tourism Industry in 21st Century

Liberalisation and opening of the Indian economy have created a new business environment in India in the post 1991 era. A large number of business travellers from the different countries of the world are visiting different metros and cities of India. A large number of Indian professionals are also visiting different tourist destinations within India for business purpose. The Indian middle class with huge pay packets and leave travel facilities alongwith their working wives have emerged as one of the important tourist segments for the tourism planners in India. The Indian youth with the opening of media and economy have become more adventure loving-outdoor-activities-oriented ones as their western counter parts.

In this fast changing socio-economic scenario in India at the dawn of the 21st century; the tourism planners both in the private and government sectors of the country, can not ignore the following benefits of tourism business:

1. **Economic Significance** : Tourism increases the foreign exchange earning capability of a nation. It also leads to the infrastructural development of the under-developed tourist destinations. The business of tourism improves the general economic condition of those, who are directly involved in this sector. Finally, its multiplier effect also improves the economic and living conditions of the people who are indirectly associated with this trade.
2. **Employment Significance** : Tourism is a business of the people, by the people and for the people. Being a labour intensive industry, it has second most important employment generating capacity, next to the agriculture sector of Indian economy.

3. **Infrastructural Significance** : The business of tourism encourages the development of infrastructural facilities in under-developed tourist destinations. In case of India one may cite the cases of Khajuraho, Goa, Kulu etc.
4. **Socio-Cultural Significance** : Tourism provides a two-way opportunity to both the tourists and hosts to come into close contact of each other's socio-cultural norms. This enables them to understand and respect the socio-cultural values, customs and norms of each other.
5. **International and inter-state understanding and peace**: Respect for the socio-cultural systems of both the hosts and tourists leads to the development of international understanding and peace. This is also true in case of domestic tourists, who visit various tourist destinations of different states within their country.
6. **Preservation of archaeological and heritage sites** : Tourism encourages the visitors, specially the domestic tourists to become aware of their existing archaeological and heritage sites. It creates a sense of belongingness among the domestic tourists for these places; and lead them to take active role in their preservation and promotion.
7. **Ecological Preservation** : The concept of 'eco-tourism', which has become as important component of modern tourism business, encourages the preservation of wild life, sanctuaries and forests of a nation It encourages the people to become environmentally conscious and eco-friendly.
8 **Youth and nation building significance** . The recent concept of adventure tourism like river rafting, mountaineering, sailing in turbulent seas; Para gliding, heli-sking, all these activities encourage the young domestic tourists to imbibe in themselves the spirits of leadership, group cohesiveness and above all risk taking decision making qualities. This measure of tourism development helps in building a strong national character with a complete dedication towards nation building activities among the youths.
9. **Prevention of socio-cultural evils** : It is true that development of tourism business alongwith its benefits have introduced a number of social evils like women and child prostitution, gambling, drug abuses in many remote tourist destinations of India; where these things were quite unheard of even a few years back. However, one of the major reasons for the growth of these evils, is the lack of inter-action between the general publics of the host tourist place and the visiting tourists. Had the local population of the tourist destinations were aware of both the benefits and shortcomings of tourism business, such evils would not have taken place in those areas Even this kind of social evils can easily be tackled with the promotion of widespread tourism education and local peoples participation in tourism business activity through seminars, conferences, workshops, direct interaction with tourists, cultural or sport meets etc.

Strategies for the spread of tourism education in 21st century India

Tourism is going to emerge as one of the most important industry in India at the dawn of the 21st century. However, to cope up with the growing demand for trained manpower requirements to run the tourist offices, hotels, travel agencies, airlines effectively and efficiently; a carefully drawn tourism education plan has emerged as the primary need of the nation.

In order to achieve this aim the tourism planners in India, both in private and public sectors, along with the experts, academicians and NGO's should sit down together; and develop the mission of creating trained manpower resources to man the Indian tourism industry at the beginning of the 21st century in a socially meaningfull way.

Once this mission is set up, the next step of the tourism planners should be the development of objectives for achieving following aims:

(1) Promotion of professionalism among the tourism managers of tomorrow.

(2) Maintenance of socio-cultural and environmental fabrics of the country alongwith the economic development of the nation through tourism.

(3) The trained manpower, starting from the skilled worker level upto the corporate level of various services in tourism sector; should become the harbinger of 21st century global peace and understanding.

In order to achieve these objectives the planners, educationists, the tourism consultants, NGO's bureaucrats and professionals in private sectors, should sit down together and draw a grandiose tourism education plan for India based on following strategies:

Strategy 1: The study of tourism encompasses studies in the fields of history, culture, economics, psychology, sociology from the humanities stream and on the other hand it includes studies in the fields of bio-science, environment, geography, statistics of the science stream. Hence, tourism as an important subject should be introduced at the secondary and higher secondary levels in the Indian School curriculums.

Strategy II: The next strategy should be one of introducing bachelor of honours degree course at college levels for those students, who want to make tourism as their career in future. The course can be termed as BTA i.e. Bachelor in Tourism Administration in the manner of BBA's.

Strategy III. The BTA students should have following three options :

(i) The central and the state governments in India should start ITS (Indian Tourism Service) or STS (State Level Tourism Service). These students may appear for competitive examinations followed by group discussions and personal interviews organised by the UPSC and State Public Service Commissions. These young recruits should become the tourism administrators in the states of India in the similar fashion of IAS and state service officers.

(ii) Those BTA students, who want to pursue the career in public sector tourism organisations as well as private sector run travel agencies, tour operators, airlines, hotels and corporations, can go for MTA courses run by the universities at the post-graduate levels alongwith the fresh graduates from arts, commerce and science streams.

(iii) Finally, in order to create a band of dedicated tourism researchers M. Phil and Ph.D. courses should be launched in tourism related subjects in the universities. The young MTA holders should be required to take up N.E.T. or S L.E.T. examinations to get themselves registered for Ph D. course in tourism.

Strategy IV: The young tourism administrators with B.T.A. degree or tourism managers with M.T.A. degree will be required to have on the job training programme during their courses and administrative training phase. This will enable them to have on the job exposure.

Strategy V: The entrance examination for M.T.A. courses in the Indian universities and the institutes should be conducted by an autonomous association namely the All India Tourism Association (A.I.T.A) in the same manner as the All India Management Association (A.I.M.A.) conducts M.A.T. entrance examination for admission into M.B.A. degree and Diploma courses run by various University Departments and Management Institutes in India.

Strategy VI: The University Grants Commission (U.G.C.) and All India Council for Technical Education (A.I.C.T.E.) should in collaboration with I.I.T.T.M. as the nodal institute provide academic, research and financial assistance to the university departments for running B.T.A. and M.T.A. courses in the 9th plan.

Moreover, the universities in the Eastern and North-Eastern parts of the country should be provided required assistance by UGC, AICTE and IITTM to set up Departments of Tourism Administration.

Strategy VII: IITTM should take active role in imparting training to the faculty members of the various departments in Indian Universities in tourism education: who want to make parallel shift to the tourism departments of their respective universities. Similar short-term tourism faculty development packages should be developed by the IITTM for college level teachers. It is true that IITTM has made considerable contributions in this regard uptill now; yet more vigorous and systematic tourism educator packages should be developed by this institute in collaboration with Tourism Departments of foreign universities especially those of U.K., U.S.A. and far Eastern countries.

Strategy VIII: Both the central and state governments in India should start national tourism education programme in joint collaboration with private sector leading hotel giants like Taj, Welcome and Oberoi groups, airlines travel agencies like Sita, Mercury etc. and NGO's from the Panchayat to national levels. This will lead to the people's participation and involvement in this

tourism related activities, which in turn will nullify the negative impact of tourism business at the tourist destinations in India.

Conclusion

In order to achieve the expected target of 5 million international tourists and nearly 170 million domestic tourists by 2001, the tourism planners in India should give top priority to the spread of tourism education. This will not only reduce the wide gap that exists between the demand and supply positions for trained tourism manpower in India; but will also enable the tourism business in India to emerge as a viable tool for social, cultural, environmental and economic developments in a meaningful way. In a nutshell, it can be summed up by stating that at the dawn of the 21st century the Indian tourism planners, experts, academicians, consultants and professionals should not go for traditional solutions to the spread of tourism education, but adopt creative, non-traditional and dynamic approaches.

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Education India : (Safety, Health & Environment in Manufacturing Sector) The Next Millennium

S.K. Saxena[1]

The advent of technological innovation, faster pace of industrial growth, introduction and production of newer and hazardous chemical substances and complex processes have become a challenge to cope with the hazards associated with them before India and other developing countries. It is pertinent that a proper interface between the technology and the user i.e. man, is maintained so as to make every industry a productive centre for national growth and global harmony. This is possible by provisions of safe and healthy working conditions at the work-place and reducing the exposure to hazards of industrial operations to the man in Industry. Increased use of Robotics and remote operations have been on increasing demand as a possible strategy/solution to remove/eliminate exposure of human beings to hazardous substances, processes etc. Some of the emerging pertinent questions are listed below:

(a) What will the future workers face as they try to do their jobs and deal with new demands on their skills and time?
(b) How will they find information they need?
(c) What will their frustrations and challenges be?
(d) How will they deal with the growing complexity of work?
(e) What will they need to learn and how will they learn it?
(f) What else is around the bend?

To all the above questions a thoughtful solution most probably will emerge, as a comprehensive training matrix to cope with accelerating change.

Education and Training has been accepted as one of the most effective tool to upgrade the technical competence and enhance the decision making capability of man while deal with such hazardous substances, processes, operations and the environment at various stages like design, operation maintenance, etc. With the technological innovations and the likely fast-paced changes in the coming years, it does not seem as easy as it used to be to look into the future and make a prediction about where will we be in the coming 50 years. It is still an intriguing question whether one can predict the advances in the coming years and predict the likely strategies of Education and Training in the light of "Technology Innovations".

Few thoughts illustrated below which may serve as a guideline of tests for deciding future training strategies :

1) Modular Training

Training designers and viz. - Trainers should have input into the content, materials and mode of presentation. All concerned persons such as designers, trainers and trainees need to be involved in designing training packages, administration of training module and measurement of training effectiveness. To illustrate a case of continuing education for nurses, a study carried out in USA may be an eye catching example. The developmental team comprising of various experts had to produce the module that would comply with regulations protecting patients and change the attitude and behaviour of nurses by asking questions such as :

i) What did the trainers need to know? and
ii) How would facilitators use the modules?

The team identified the potential trainers as the nurse educators and nursing staff. Initial design of module was received. The development team comprising, nurse educators, clinicians and learners reviewed the module for content, format, time frame in open forum. The development team discuss the plans and prepared evaluation program with the pre and post-training questions. Proposed literature contents, experience, case study, overhead transparency, handouts, etc. were described.

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The nurse educator in particular suggested that this module included the users friendly manual, visuals such as video tapes, handouts, overhead transparency and materials specific to their own facilities including alternative approaches to using module in routine situation such as administrating intravenous solution. Two hours were thought enough for the module. This training module was then tested on a pilot group. The developmental team selected, interviewed and instructed four nurse educators/facilitators and four monitors at each pilot site. These educators and facilitators studies manual, recorded the amount of time spent and made notes on the ideas for revision. This pilot test took two months to complete. Fascinating results such as acquiring new knowledge and experience in change of attitude about using patent restraints were noticed. The developmental team and the pilot test facilitators, monitors and participants served as faculty for the tele conference. The module was considered most useful for training the nursing students.

On a similar pattern, if a training module is designed on safety, health and environment protection topic-wise using video tape, reference material, overhead transparencies and materials specific to the facilities having alternative approaches etc. and pilot tests carried out to authenticate effectiveness, it may become a comprehensive package to be administered in most of the industries as a model training module. Such kind of modules would be essential to be developed in the light of overall increased demand of training in the industry. Training institutions in the country, both government and private would not be in a position to meet this high demand unless a comprehensive training tool-kit as described above is made ready for application in the concerned industry.

2) New Approaches for Curriculum Design/Redesign

Training and education in the field of safety, health and environment protection has now been restricted to the advanced diploma and some cases in Masters degree curriculum. If the inputs on safety, health and environment protection are imparted at the school, higher school, university and doctorate level as an essential requirement, every person (student) having basic inputs on safety, health and environment would be expected to be cautious about his obligations towards the working population and the society at large. Any decision taken by such person would make him consider the impact of his decision or adverse effects of it on the industry, the population around it, in addition to the global problem which it may cause.

Specialization focusing attention on some need-based areas such as design and fabrication of machine guarding, protection of environment by controlling factors such as noise, dust, toxic fumes, gases and vapours, employment of high tech protection and feasible applications is definite to emerge. The conventional approach to problem-solving therefore, needs a change to classical approach which would control the safety, health and environment problems arising out of industrial operations in a more systematic and scientific manner.

Existing system of Safety and Health Education orients itself to a large amount of theoretical inputs though some practical inputs are also imparted. Such inputs of general nature which focus on making Safety Officers and Factory Medical Officers as "General Advisors" would essentially be required to undergo a change. In the years to come in addition to such "General Advisors" specialist services would be required to be rendered to industries. "Specialist Advisors" would then become a need in future.

3) Channeling Training

Existing Education and Training Techniques need a serious in-depth examination to ascertain their effectiveness. Sophisticated training technology to give a whole and new meaning to world networking is a must. A self paced, interactive replacement to the traditional instructor/trainer-led training would become a necessity. The course modules would allow trainees to control the order and pace of learning. Preferably such modules would be made available in different languages. Such interactive multimedia training would be an effective, cost efficient tool to deliver learning and information to the trainees desktops. In other words, interactive multimedia would serve a computer-based training with two important features added: event driven programming that allows learner to retrieve the information they want, when they want it and in

the manner that makes most sense to them; and audio and full motion video which significantly enhance the learning experience, through CD ROM for easy accessibility.

Video/Teleconferencing would provide an opportunity to modify perception by gaining access to the view points of other member of the conference.

4) **Interaction on Internet**

Use of Internet for training is still in infancy. However, in the near future, interaction on Internet is expected to become predominant. Internet is the largest and most diverse information resource in the world today.

The Internet is an effective way to train anywhere from 10 to 10 million people, irrespective of kind of computer each training is using, how much ROM they have installed, whether or not, they have a CD ROM drive or what version of operating system they are using.

In near future band-width which is currently small (slower performance), would sufficiently become large to accommodate real time video and audio.

5) **Development of Softwares**

Existing conventional class-room training technique is expected to undergo global change to software training. No wonder in coming 15-20 years, softwares on various safety, Health and Environment Protection related areas would be easily available. These would reduce to a large extent requirement of expert services, elimination of concentration of expert knowledge with few individuals and reduce the requirements of inspections. Softwares, it is believed would enhance an effective self regulating attitude

The above training technology would have a definite impact on trainer, who shall be required to prepare/develop softwares meeting organizational requirements, encompassing legal, technical and administrative aspects.

Assessment of Training Technology

Safety, Health and Environmental Protection issues are expected to undergo significant changes in the next five decades. It would be too early to predict training requirement for further period of another 40-50 years. However, to assess the training/technology requirements of next 40-50 years a questionnaire is given in annexure which would serve as a tool to training experts to gear up efforts for development of training-tool-kit for overall effectiveness.

Possible Impact in Future

Present system of teaching and training is based on Teacher-Trainee (Trainer-Trainee) interaction which has a definite advantage of HUMAN TOUCH reinforcing value-based learning. However, with modern and advanced Training technology, contact between a Teacher/Trainer and Trainee would be isolated which may lead to "stereotyped" learning without personal interaction. It is quite likely that the advanced technology may have to be developed with the personal interaction-value based information system.

Annexure

Assessment of Training Requirements for Safety, Health & Environment (SHE) in Next 40 years

Questionnaire

1. What topics do you think, you will be training on in 40 years from now?

- ☐ Safety and Health Management
- ☐ Use of of Internet/Computers for SHE
- ☐ Development of SHE Softwares
- ☐ Use of Robotics and Automation

2. What groups of workers do you think most of the training resources will go to?

- ☐ Entry level worker
- ☐ Computers support staff
- ☐ Technical and Professional Staff
- ☐ Supervisors and Managers
- ☐ Executives
- ☐ Safety & Health specialists (Safety Officer, Factory Medical Officer, competent persons, etc.

3. What Technology do you expect to be using to train workers?

- ☐ Class-room lectures
- ☐ Video-tapes
- ☐ Multi-media/CD-ROM
- ☐ paper based manuals
- ☐ Internet
- ☐ Tele conference/Video conference training

4. Where do you think you will be focussing most of the efforts.

- ☐ Hardware Development
- ☐ Interface Development
- ☐ SHE Technical Development
- ☐

Others (Please describe).

5. What new trends do you expect will emerge in the SHE Training field?

_____
_____
_____

6. Out of the following current trends, which trends you feel will surface in future?

☐ Total Safety Management

☐ Increased independency on human beings

☐ Global Standardization

☐ Others (Please specify)

7. What do you think the biggest difference will be in training fields of today and 40 year hence?

_____
_____
_____

8. What do you think, you would prefer to describe yourself now?

☐ Internal Trainer

☐ External Trainer

☐ Others (Please specify)

9. How would you describe yourself 20 years from now?

☐ Internal Trainer

☐ External Trainer

☐ Other (Please Specify)

10. Do you use technology, a training tool

a) ☐ Yes ☐

b) If yes, what type

☐ Multi-media/CBT

☐ Video/Teleconferencing/Interactive distance learning

☐ Others (Please specify)

11. While using new technology, what is your biggest challenge

☐ Time ☐ Complexity of Material ☐ Money

☐ Others (please specify)

12. What do you think is the most important technology trend for trainer?

☐ Authoring Software

☐ Distance Learning

☐ Web-based training/Internet

☐ Network

☐ Others (Please specify)

Optional

Name and Designation

Address of Organization

Tel. No. (O) _____ (R) _____

Fax No. _____

The Optimistic, Pessimistic and Most Probable Scenarios of Indian Education with Specific Reference to Agricultural Education in the 21st Century

M. Manimekalai[1]
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Prologue

"What is education for if not to train the youth of India to envision, prefer and realize a new future? Do our educational programs inspire students and scholars to probe deep into future, to understand the implication of technology and to learn how to consciously through foresight and anticipatory management redesign society?"

Dr. Satish C. Seth, Father of Futurology.

Introduction

Futurology, the study of futures has become a virtual necessity in view of the rapid changes taking place around us. It is no longer a static society. It is a dynamic, vibrant, pulsating sauce-economic system changing every minute, threatening to throw you off your balance if you are not prepared to anticipate the tomorrow.

Education is an organic entity; it changes, grows with the time, responds to the needs of the society and adopts to the environment. Since Independence, India has made great strides in higher education and research. India has produced educationists, agricultural scientists, engineers, technologists, doctors and managers, who are in demand all over the world, both in developing and advanced countries. The twentieth century has been a period of educational revolution; momentous changes have taken place. The education system in advanced countries stands at the brink of the 20th century and is knocking at the doors of the 21st , uptodate in preparation ready to enter. But unfortunately, in contrast, Indian educational system stands far removed, groaning under the weight of accumulated arrears of reforms. "It is a sad fact that Higher Education in India represents a system that has successfully resisted any change in the last 50 years when else where in the world, the system had undergone far reaching changes - a revolution" (Kulandaiswamy, 1997).

Statement of the problem

Agriculture forms the backbone of Indian economy. Agriculture is not a mere technological phenomenon. In India, it is a way of life. It was so in past. It continues to be so today and it will continue to be so in future also.

Agriculture will remain a central core of development. Agriculture is not only cultivation, it is a social and cultural phenomenon which provides a bedrock to the entire process of socio-economic development . Agriculture produces resources which generate many productive cycles with multiplier effects extending to all facets of life in the society. Agriculture is the source of livelihood for over 70% of the Indian population. Agriculture and allied occupations viz. animal husbandry, forestry etc., contributed 31.6% of the National Income in 1990-91. The agricultural education in India has played a very vital role in preparing human resources of teachers, researchers and extension workers who have contributed significantly in bringing "green revolution" in the country.

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Due to changing agricultural scenario and rapid development of Science and Technology, it has become very essential to probe further into Indian education in the next millennium in general and agricultural education in particular. More specifically, the study aims to forecast through the insights and perceptions of certain individuals the optimistic, pessimistic and most probable scenario of Indian education in general and agricultural education in particular. Hence, the problem taken for the present study has been stated as "The Optimistic, Pessimistic and most Probable Scenarios of Indian Education with specific reference to Agricultural Education in the 21st century.

Need for the Present Study

Recently the Prime Minister of India released a set of 10 reports prepared by the **Technology Information Forecasting and Assessment Council** of the Dept. of Science and Technology From these reports, we get a vision of India for the year 2020. "Every growing organization should develop a report like the above envisioning a future. In fact, every momentous event that has taken place in any field should have been preceded by futuristic thinking and scientific planning" (Meenakshi K.G. 'Futurology and the Curriculum' 1996). Thus , there is a direct need to anticipate the contours of future and act accordingly in a very vital field like Agricultural Education because it has been a neglected area by Indian researchers so far. This will also give a sense of direction to all the programs in Agricultural Education.

Significance of the Present Study

India's Independence was born against the backdrop of the great Bengal famine of 1942-43 when about three million children, women and men perished in hunger. This is why Gandhiji urged that the foremost duty of Independent India was to enable every citizen to earn his or her daily bread This history led Jawahar Lal Nehru to announce in early 1948 that "EVERYTHING ELSE CAN WAIT BUT NOT AGRICULTURAL".

The 18 member committee on agriculture education, constituted by the Indian Council of Agricultural Research (ICAR) under the chairmanship of Dr. M. S. Swaminathan has recommended a Rs. 1000 crore investment in the public sector during the next five years for agricultural education.

The above crucial points justify the significance of the present study. Added to the above points of significance, we are now in a position to draw a balance sheet and chalk out a strategy for the future since we are 29 years after the term "Green Revolution" was coined by the American Dr William Gadd in 1968. As research in Agricultural Education should seek to generate new technologies to meet out the needs to suit the likely future changes, the present study assumes great significance.

Review of Related Literature

Conducting a literature review is a vital component of any research process. The research studies and publications reviewed here include closely related investigations on various dimensions of the research problem and research method selected by the investigator.

Mitoraj Suzanne Ogorzalek (1991) conducted a doctoral degree investigation on "The Impact of Technology on the Secondary School English Curriculum : A National Survey of the Views of English Department Chairs and Coordinators selected with the aid of two National Organizations, participated in a **Delphi exercise to forecast changes** in the teaching of English as a result of technology. Panelists then responded to the **likelihood of these changes occurring in 1995, 2000 and 2005** and identified ten technological developments that will have impact on the teaching of English.

Gupta (1994) conducted his doctoral study on the topic ***"Education System - analysis and reforms with special reference to Agricultural Education".*** In this study, the investigator has attempted a systems analysis of the education systems prevailing in different agricultural universities in India Assessment of the effectiveness of the systems is made largely on the basis of how the students/teachers feel about the system.

Venkataiah (1995) in his research paper **"Education for All by 2000 AD."** has presented an unpleasant global picture that more than one-third of the world's adults have no access to printed knowledge, new skills and technologies that could improve the quality of their lives.

The renowned International Agricultural Scientist Swaminathan in his article on **"Towards an evergreen revolution** (1995)" observed :

"Sustainable Green Revolution is an ecological and economic necessity in our country of 100 million farm families. Another term may be coined to denote the unsustainable use of yield enhancing technologies namely Green Revolution. What should be strived is the promotion of sustainable green revolution and the curbing of greed revolution".

Indiresan (1996) in his paper entitled **"Education for Development in the Twenty First Century"** predicted that in the 21st century, all countries will have to prepare themselves to face major development shifts as indicated in the following table:

Table 1 : Shift of Paradigm between Past and Future

Item	The Past	The Present	The Future
Tools of Production	Agriculture	Machinery	Information
Half-life of skills	Generations	Decades	Less than a decade
Economic ambitions	Inheritance	Salaries	Competitive careers
International linkages	Few	Limited	Virtually non-existent
Cultural privacy	Extensive	Limited	Overwhelming
Cultural Identity	Local tribe	Nation	Fundamentalist religion
Environmental attitude	Preservation	Development	Sustainable development

In a paper entitled **"Agricultural Scenario and Future Research Challenges in India"**, Poonam Sharma, Pankaj and Singh (1996) stressed the need for Agricultural Human Resource Development. Agricultural Science is advancing very fast and is becoming globally competitive and hence provisions of advanced training of the scientists in their fields of specialization in advanced national and International research and development institute/centers of excellence is stressed very much by the authors.

Studies abstracted in the four surveys of research in education (1974, 1979, 1986, and 1991) reveal that the Agricultural Education has received very little attention, which provides the rationale for the present study.

Objectives of the Present Study

The Present study was commissioned to probe into Indian education in the 21st century, with specific reference to Agricultural Education. More specifically, the present study aims to see the interface between Future Indian Society, Education and Agriculture through insights and perceptions of certain individuals and to outline the optimistic and pessimistic and probable scenarios of the interface.

Methodology

The method of research pursued for this study is an appropriate blend of the Ethnographic Futures Research (EFR) approach developed by Robert B. Textor at Stanford University, the Delphi Technique, developed mainly by Olaf Helmer and Norman C. Dalkey and Documentary Research which consists in putting together in a logical way the evidence derived from documents and records and from that evidence forming conclusions.

The Ethnographic Futures Research (EFR) approach is used to elicit, analyse and interpret the present perceptions to members of the given society or social group about possible or probable futures, culture or sub culture. In the present study, the EFR approach was used to elicit, analyse and interpret the present perceptions of certain members of society with regard to Agricultural Education in the 21st century.

The Delphi Technique calls for collection of individual conjectures and judgments to form a composite group judgment. The Delphi Technique is a method for collecting organizing and sharing "expert" forecasts of the future. The original intent was to define a probable set of scientific and technological events and to predict the time of occurrence. Although based upon the speculations of experts, the procedure does not reveal the judgments one to another, thus barring undue influence by prestigious individuals.

In the present study, in response to a questionnaire developed by the investigators, respondents first submitted conjectures as to likely events and later (second round) submitted a guess as to the probability of each events occurring. At this second stage, the initial responses were screened, edited and combined. Following the second round, the results were summarized. On the third round, the respondents were asked whether they wanted to revise their estimates after viewing the summary of predictions made. On the fourth round, persons whose judgements fell outside the *inter quartile* range of the composite responses were asked to justify their responses. They may still change them at this point. Other questions or tasks were proposed as given below:

1. How Desirable or Undesirable is each of these events?
2. What are the probable or possible results of the events?
3. What polices or intervention procedures might be developed to discourage, encourage, or deal with the consequences of an event?

Thus, this Delphi Technique was a very effective technique in forcing awareness of change and of the assumptions, ambitions, goals and factors which influence it. It also served as a planning tool to probe priorities in the field of investigation.

Tools

Interview Guides and Free-type opinionnaire were developed and passed through the following main phases : (a) Pre-Pilot Phase (b) a Pilot Study and Pre-Test Phase (c) Finalisation Phase. To supplement the data-base collected from these two tools, documentary analysis of official records, newspaper accounts and publications in the journals was made. "Documentary research consists in putting together in a logical way the evidence derived from documents and records and from that evidence forming conclusions" (Hillway, 1964, P.142.) official records constituted excellent sources of exact information because of the care which official bodies must have exercised to make certain that such records are accurate, complete and carefully preserved. The investigators have analyzed both factual reporting and expressions of opinions in various professional Journals, Magazines and Newspapers. The rationale for this triangulation strategy of using multiple sources is that the flaws of one method are often the strengths of another and by combining methods, the investigator can achieve the best of each, while overcoming their unique deficiencies.

Sample

Care was taken so that the respondents selected were appropriate. They were chosen from members of the society whom the researchers felt, were 'in the know' about the developments in the field of Agricultural Education. They were also in positions which can in one way or another influence those developments. A list of 50 names and positions was compiled which included scientists, professors and vice-chancellors of Agricultural Universities in an attempt to obtain as representative a sample as possible. A total of 30 finally gave their consent and permission for eliciting their perceptions with regards to future of Indian Society and Agricultural Education.

Analysis

A field note of interviews, opinionnaires and document reviews was maintained by the investigators. By cross checking data from multiple-sources, the investigators addressed a critical component of "Credibility" through triangulation. Content analysis of the responses was done. Generalizations were made based on a consensus of ideas or common content expressed by a majority of the respondents. The procedure for generalizing across a corpus of completed summaries is in order to arrive at conclusions about the common content and major pattern that characterize the corpus as a whole. Whenever a majority of the interviews expressed similar ideas about a certain issue, it was regarded as

fact. The scenarios of the interface are then merely holistic outlines, which has been categorized as optimistic, pessimistic and most probable.

Findings and Conclusion

Based on the recorded summaries of the field notes, common ideas were taken as propositions or facts which characterize the Agricultural Education in 21st century in three perspectives namely the optimistic, pessimistic and the most probable scenarios.

The Optimistic Scenario

The optimistic scenario is one which is highly desirable, although it may not be a reality. From this study, it was agreed that an optimistic scenario includes positive expectations of education in general and agricultural education in particular.

When asked to be optimistic, the respondents opined that considerable developments would have been made both in the educational as well as the agricultural educational sectors, reinforcing and complementing each other. In future, educational efforts will be increasingly through a process of networking rather than in terms of individual institutions. The rise of multinational universities is on the horizon A small city state like Hong Kong has 18 universities from advanced countries offering their programs in collaboration with local universities or even independently.

It is learnt that the Government of Malaysia has allowed the London University from UK and Monash University from Australia to build their campuses in Malaysia and offer programs to Malaysian students Thus, the 21st century may witness an international competition in Indian Educational field also. Communication technology will find increasing use in education and training. In the field of agriculture, it is to be remembered that India barely produced 12 Mt of wheat in 1965 but by 1995 it reached 65.24 Mt This rate of increase in production is faster in India than in the U.S.A . If the present trend continues India could surpass the U S A and become the world's second largest producer of wheat in the next five years. Even India's poor farmers will adopt the new seed and fertilizer technologies about as frequently as the more resource-privileged large scale farmers. New technologies would not accelerate labor displacement in rural areas. While some categories of labor may decline e.g. threshing, many new job opportunities will open up in farm machinery operations, input supply, grain marketing and other agro services; the net effect on rural employment will be positive.

The success of green revolution was achieved on less stronger infrastructure. The ecological diversity, broad genetic resources available, the huge and well-developed National Agricultural Research System and excellent human resource that is available, will enable the country to perform well in agriculture and allied sectors in future, belying the prophets of doom. The need for educational technology will increase manifold in agricultural education where a teacher along with students need to traverse the seasons, geographical regions, agroclimatic zones and plants of different types within a limited and rather short period of time. As modernization increases, there will be a demand for more specialized and qualified, well trained agricultural graduates who can handle new situations and opportunities. New courses on Management Technology, Marketing Expertise, Banking Expertise, Post Harvest Technology, Bio-technology, Computer Science, Instrumentation Technique, Energy, Environment Management, Agro-meterology and Crop Modeling will become more important to meet the future requirements.

The Pessimistic Scenario

The Pessimistic scenario presents a bleak and highly undesirable future situation, both in terms of General Education as well as Agricultural Education. This scenario may not be the worst that could happen, but would be highly undesirable.

The Pessimistic seenarists envisage the economic situation to remain unchanged from the present slump, but not getting worse.

The year 1998 marks the bicentenary of Thomas Malthus's essay on population. The global population in 1798 was 930 millions, much less than India's current population. Yet, Malthus was concerned about the human capability to increase food production to a level required to meet the needs of.

the growing population. Fortunately, Science and Technology coupled with appropriate public policies have so far helped to keep the Malthus fear of wide spread famines at bay. But as we approach the beginning of a new millennium, there is apprehension that Malthusian predictions may yet come true.

The foremost exponent of the neo-Malthusian view point Lester Brown, who is also the president of the World Institute has articulated these fears with great clarity in his recent book "Full House". He predicts that by 2030, India may have to import over 45 million tonnes, four times more than our peak import of 10 million tonnes of foodgrains in 1966.

Jacques Delors who headed the "International Commission on Education for the 21st Century" appointed by UNESCO has highlighted the need for taking basic education to 130 million children and 100 million dropouts from the schools. The 900 million illiterate adults cannot be ignored. The Delors commission has also identified three major crises before the education of the 21st century : (i) Economic Crisis (ii) Crisis of Ideology of Progress and (iii) Moral Crisis.

Taking advantage of the 'liberalization- privatization- globalization' construct, the Government of India introduced the Private Universities (Establishment and Regulation) bill of 1995 in the Parliament, Press reports indicate that the HRD Ministry of the United Front regime has also decided to go ahead with a 'reformed' private Universities Bill. These developments introduce a new dimension; many of their effects are in the womb of the future. This changing scenario demands generation of own resources by Agricultural universities.

Although the production of wheat doubled in seventies, production of rice did not achieve sufficient breakthrough. The realization of goal of "Food For All" still eludes. Self sufficiency in food grains production requires the agricultural development of dry land areas constituting nearly 72 percent of India's cropping land.

The key to future strategy for coping with recurring droughts lies in concentrating Agricultural Research and Development efforts on dry land area, managing it with scarce water resources. The United Nations Population Agency's medium Projection is for world population to reach 6 billion by the year and bout 8 billion by 2025, before stabilizing at about 10 billion toward the end of the 21st century. Over 90% of the worlds projected 3 billion additional people will reside in what are now low-income developing nations. At present, there is unfortunately a very poor link between research and technology, generation and delivery continuing agricultural research and new technology generation alone can save the food demands of the 21st century. The present constraints in the standard of Agricultural Education such as mushrooming of institutions, weak evaluation system, inbreeding of faculty, no effective accreditation, poor infrastructure and non-consideration of teaching aptitude or competency in the selection and appointment of Agricultural University Teachers should go away to dispel the glooming Pessimistic scenario of agricultural education in the 21st century.

The Most Probable Scenario

The most probable scenario is the one envisaged to be the most likely one to occur. The characteristic scenario projected is based on the perceptions of the respondents with particular reference to the present situation, current trends and developments. It may neither be the most desirable, nor the least desirable, but realistically it may be the most likely to occur.

Information technologies are likely to open new prospects in the 21st century. Television, Telephone and Computer (TTC) will reshape practically every walk of life, including education. The classrooms of tomorrow could be different from those of today, with lot of challenges. For and individual learner, dependence on the teacher will gradually diminish. The TTC factor will take over and encourage self learning.

Article-1 of the World Declaration on Education for All (EFA), proclaimed by the world conference on Education for All, held in March 1990 at Jomtien, Thailand has stated that every person-child, youth and adult-shall meet their basic learning needs by 2000 AD. The resolutions of the New Delhi Summit on "Education for All" held in December 1993 in which the nine most populated countries of the world-China, India, Bangladesh, Brazil, Indonesia, Egypt, Nigeria, Mexico and Pakistan participated were of great importance for making education available to all.

In the field of Agriculture, the latest estimates for 1996-97 put the total food grains production at an all time high of 198.17 Million tonnes. Farming in the next century will be marked by crop

diversification. As the Green Revolution has changed the face of Indian Agriculture, there will be a blue Revolution also in the land and fishery sector. The production of 5 million tonnes of fish in 1995-96 and a record production of 5.14 million tonnes anticipated in 1996-97 are enough indications in this regard. Indian agricultural scientists will continue to play a remarkable role in developing new high yielding hybrids amongst several crops. With the recent changes that have taken place, there is higher prospects of commercialization in agricultural sector. This is in all the more crucial with the government policy of privatization, liberalization and export promotion. This is in line with the international scene and opening of the international market for India after signing of Dunkell proposals. The Government of India may take various steps to give agriculture the status of an industry so that agriculture sector becomes more remunerative. The future situation may demand new types of manpower, not generalists as in the past, but specialists and entrepreneurs. The need for educational technology will increase manifold in Agricultural Education where a teacher along with students needs to traverse the seasons, geographical regions, agroclimatic zones and plants of different types within a limited and rather short period of time. The proposed establishment of Agricultural Education Council (AEC) with statutory powers will be a milestone and will ensure uniformity, regulation, strengthening and monitoring of agricultural education in India.

Conclusion

This paper has attempted to describe three scenarios, that is, the optimistic, pessimistic and most probable, with regards to Indian Education in general and Agricultural Education in particular. The view expressed show that there will be changes in the society and hence there will be corresponding changes in the system of education as well as Agricultural Education. The scenarios described are reflections of these changes. Only time will tell which of the three will actually materialize. We have to prepare for change, respond to change, planning for change and reaching for change. The challenge of rural development is yet to be met by the Agricultural Universities. The benefits of the technology developed by Agricultural Universities should reach the entire rural population. Time has come for rethinking on the type of Agricultural Education to be imparted, to meet the demands of the 21st century in view of the changing agricultural scenario. The Strengths, Weaknesses, Opportunities and Threats (SWOT) of each of agroclimatic regions have to be analysed carefully and a proper micro level planning exercise has to be undertaken to promote specific cropping and farming systems in the different zones based on their relative strengths and weaknesses. We hope that India will emerge as a stronger nation because its foundations for agriculture are well laid and sustained over the years. The national efforts are wonderful supplements for the efforts at each of our universities. The further progress will be measured by how many suggestions/recommendations are translated into action.

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Trends in Education : Past, Present and Future

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Backdrop

This ancient nation, its history dating back to the first millennium B. C. , can boast of possessing wisdom acquired from the great races and dynasties that came and settled down here, of possessing experience acquired from kings and emperors that ruled over it. The Aryars came and settled down to pastoral life around 2000 B. C. . Here the traditional system of education was the 'Gurukul' . The system consisted of training and instructions designed to augment the acquisition of knowledge, skills, abilities. The development of character and mental process was a by-product of this system in which the pupils were sent to places of learning located generally at distant, far away, places. The isolation of the place chosen for such a system facilitated concentration. The pupils returned back home only after having acquired learning.

With permanence of sorts setting in dynasties ushered in the golden age, pastoral life gradually paved way for the agricultural society. Later, trade ties were established and Nalanda, one of the most renowned universities of the day, was set to carry the torch of learning across the country. Thereafter industrial revolution brought about changes of an unprecedented magnitude. Factory-based mass production that took over from the small scale entrepreneurship threatened the Gurukul system, which had survived for centuries. There was increase in trade and commerce and the concept of wealth creation acquired newer connotations. Gradually, while industrialisation assumed gigantic heights man sunk into deeper and deeper degradation till schooling transformed into a commercial activity.

After the first wave of the advent of peasant-centered agriculture, the second wave dwelled on topics like vertical integration, synergy, economies of scale, hierarchical command and control. It called for continuous learning in order to keep abreast with the attendant problems - learning, based on experience of handling similar situations under different economic settings across the globe.

The third wave forced the industrialisation to ride the back seat. This was knowledge revolution. Essentially this was the product of Information Technology born out of convergence of three technologies viz. telecommunication, computers and speed. This has resulted in globalization. The change, as it is seen, would lead to demassification, minimisation of scale as opposed to mass production, outsourcing, profit center, networking, etc.

The transition through different systems of wealth creation has called for complete revamp of the whole educational system, which was designed on the implicit assumption that all problems in the world have been solved and the teacher knows the answers. In such a scenario, the teacher first tells the pupils the problem, then the answer, and literally school then. Through different systems of creation of wealth, over the centuries, it is apparent that there have been shifts requiring adjustment in almost all walks of life. In the future world of constant discontinuity, therefore, the problems are not there yet; these will be of different nature. The traditional education, from *gurukul* to the present is, therefore, in danger of deskilling rather than the reverse. Many of the assumptions of education were that there were 'Knowable' things about the world. And that if one knew those things then one could proceed with some certainty through the world. A lot of this has to be unlearnt in today's environment.

When the British moved into India, they were mainly an agricultural economy and their new-found colony was an industrial power-industrial development in no way inferior to that of the more advanced European nations. They, at that stage of development, reached in the early seventeenth century, had nothing of value to offer us by way of products comparable in quality or technical standards with Indian products. India to them was nothing more than a sub-continent occupied by backward and inward looking tribes which were, most of the time, at war with one another before British started modernising it through introduction of legal system, modern education etc.

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As we celebrate country's fifty years of independence, it is time to introspect article 45 of the Directive Principles of the State laid down the cherished goal of mass literacy and urged all to provide "free and compulsory education for all children until they complete the age of fourteen years". Within a period of ten years, the founding fathers of constitution had hoped that independent India would be able to achieve universal elementary education by 1960. However, the National Education Policy formulated in 1963 advanced the date to 1990 to achieve the universalisation of elementary education. It has been seen that adult literacy creates a demand for education of children; besides, it also gives a fillip to family planning as is evident from the Kerala experience. Literacy also contributes to the success of democratic governments, based on adult franchise, specially in developing countries.

Education in India, though a concurrent subject, is essentially the responsibility of states which provide 70% of total plan expenditure on education. Progress of education in different states, however, varies depending upon priorities and budget allocation. Central government, in past, has paid little attention to education; the share of education in successive five-year plans declined from 7.2% in the 1st plan to 2.6% in the VI plan period. Nevertheless, certain initiatives were taken from time to time and included :

- 'Each one Teach one' experimental scheme, launched with the objective of accelerating literacy amongst illiterates, has not been a great success. This has been attributed to problems faced by instructors eg. Motivation-learners demanding incentives, irregularity among learners, mutual timings, learners feeling too old to learn and not respecting instructors etc. The scheme can work if the sense of social service, sympathy and respect for the cause are actually inculcated in all the instructors.
- National Adult Education Programme, introduced in 1978, intended to impart functional literacy to 100 million illiterate adults within 5 years (1983-87) through mass volunteer-based approach (comprising teachers and students of Universities, colleges and schools, ex-servicemen, volunteers). The mass-orientation, however, could not be achieved.
- National Literacy Mission, launched during 1988, sought to impart functional literacy to 80 million illiterates in 1.5-35 year age-group, 30 million by 1990 and another 50 million by 1995. There were problems and constraints such as resource crunch, administrative constraints due to weak infrastructure, programme implementation by fits and starts. It may be mentioned that thrust of the Mission was on adoption of an area-specific and time -specific approach; the selection process of area - whether village, cluster of villages, panchayat, taluka, block or even a district was plagued with problem.
- Meanwhile, the number of illiterates in 15-35 year age group increased from 91 million in1951 to 110 million in 1981 and to 116 million by 1995 primarily due to population explosion and drop outs.
- Education for All (EFA) : India was a signatory at the World Conference at Thailand, in 1990, to provide education for all by 2000 AD. Accordingly, a programme of Action was drawn up in 1992 emphasising the paramount task to reform management of education, universalisation of primary education, and to enhance participation of girls at all stages of education. This commitment was renewed by leaders of nine high population countries in EFA Summit at New Delhi in 1993.
- Vocationalization : The new education policy proposed covering 10% of higher secondary students by 1990 and 25% by 1995 by vocational courses.
- Distance Education - 45 conventional universities offer distance education programmes. Besides there are 6 open universities including one at national level i.e. IGNOU.
- Operation Blackboard : envisages providing minimum essential facilities (2 large rooms, blackboard etc., toys and games, a woman teacher) in primary schools; coverage to be extended to 20% of Community Development Blocks and Municipal Wards.
- Models Schools : With a view to enhance quality of education in its schools, government set up Navodaya Vidyalayas essentially residential schools, one in each district to attract talent in rural areas under a Samiti, and an institution Kendriya Vidyalaya Sangathan to manage about 900 schools across the country.

Even though the official target date has been postponed again and again - the latest being the 'twenty-first century', yet the figures, released on the eve of 50 years since independence, do show achievements made in the field of education.

Despite the achievements, illiteracy still persists in the younger age groups; about one quarter of all boys aged 15-19, and nearly half of all girls in the same age group, are illiterates. In BIMARU states. (i.e. Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh), which account for about 40% of country's total population, illiteracy among women aged 15-19 is the rule. More than half of our population is literally illiterates it is more than India's total population at the time of independence.

It would appear than even though the goals were enshrined, yet practically no serious attention was paid to education as is apparent from the declining share of education in various plan periods. Value-based education has had never appealed Indian politics. The country went straight for adult franchise instead of educating people to make them worthy of discharging duties in a democracy unlike Singapore's Lee Euan Yew according top priority to education and changing the country's course of development.

The Winds of Change

Meanwhile, the knowledge revolution or emergence of it or the third wave (according to Toffler) unleashed in the nineties, PC empowering people of all ages by managing information to support thinking, thus adding new dimension to the way the people work, rendering obsolescence to the work culture. Downsizing of organisations and in a number of cases, the governments became a global phenomenon; in fact, re-engineering and downsizing emerged as the buzz words. There is a growing concern that obsolescence may lead to large scale unemployment, more particularly amongst older workers. The concern is a legitimate one. This means that all professions and industries may face this situation. But as has been the practice new ones will flourish. These changes will happen over next two decades or so which is fast by historical standards. In an evolving economy, job categories change constantly. For instance, before industrial revolution most people lived or worked on farms.

The liberalisation process, initiated some six years ago, globalised almost all the fields and education or knowledge can be no exception. The laws of nature being the same from Chennai to Chernobyl to Chicago, yet apparently there are wild variations in imparting and fostering knowledge in different countries.

Moreover, with the arrival of Internet, technology innovating communication, global interactive network is expected to further transform the work culture having significant impact in the arena of education. Improving education globally is, thus, seen as best investment that could be made because of the downstream benefits that flow to every section of society; putting computers and Internet to work in schools is likely to emerge as a tool to enhance learning process. Moreover, access to it would become commonplace in forward - thinking businesses. Over the period, businesses have rushed to adopt productive new approaches but schools have been reluctant to change interaction between students and the teacher, the roles and patterns have more or less stagnated. The world became smaller because of better communications and transportation; the generation and the next adapted, through acquisition of more complex skills, achieving increases in their standard of living. Moreover, through most of the 19^{th} century teacher had defined educational experience almost single-handedly. But as the end of the century approached, formal curricula assumed a larger role, and individual teacher a less dominant role. The coming of industrial era did bring about speedy change, but schools did change somewhat.

Today, at the end of another century, change is in the offing again. Children need information and skills to succeed. In a way, a new technology revolution is transforming business and putting new demands on education system. More and more people abroad are opting for computers at home for working at home as also for education purposes. This incidentally provides pre-schoolers an exposition to computers. Moreover, softwares combining entertainment with education have penetrated the market, giving rise to edutainment. These are interactive, provoking reaction of children and parent alike, making homeschooling popular. This would lead to emergence of technology-intensive public schools, that would devise new and diverse teaching models as opposed to conventional school teaching. Further, in an era of reduced government spending, the colleges would have simultaneously to find new technology-based solutions to educate more students without expending more money.

Distance learning programme, televising campus course and displaying it at a second location with professor available via telephone to answer students' questions, is one. Virtual campuses is another where students learn through Video, TV and Computers.

Making Information Technology an integral part of learning experience will provide numerous benefits as :

- Computers will fine-tune educational material so that students can follow their own paths in their own learning styles at their own rates;
- Regardless of individual's ability, each learner could work at his /her own pace inside and outside the classroom;
- People anywhere will be able to take best courses taught by greatest teachers;.
- Net will spread adult education, job training and retraining and career enhancement courses the world over;
- Interactive multi-media instructional system will help teach courses in colleges-a shift from text book budget. This mediated learning approach blends traditional instruction with computer-based learning that creates personalised lesson plan for student. It is expected that interactive programmes would ultimately be delivered on broad band networks to homes and community centers as also the classrooms. Meanwhile, however, the programe will be offered on CD-ROM;
- Internet will raise productivity in education by enabling teachers to share lessons and materials so as to spread the best education materials & practices. Teachers everywhere, even in isolated locations, will have access to the best material;
- As simulations become reality, education would enter virtual reality with schools having VR rooms just as music rooms, theatres etc.;
- Teachers will continue to give home work but the assignments would include reference to electronic resource materials, and e-mail to the parents about progress of their child;
- Wall-mounted video white boards will replace teachers' blackboard handwriting with readable fonts and colourful graphics, animations, photos etc.

The shape of things to come thus calls for quantum changes in the schools of today. This requires vision, political will and commitment from one and all i.e. planners, teachers, administrators etc. The transformation will take different forms but it will be at the core.

Things to Do

1. There is an urgent need to usher in a new holistic education philosophy to groom multiple-dimensions of personality (i.e. physical, intellectual, aesthetic, and spiritual) and seek harmonious development.
2. Adoption of a multi-pronged strategy including reorganisation of education at different stages with special emphases on quality improvement, efficiency and effectiveness at all levels, re-orienting of the content and process education, utilization of state-of-the-art technologies, an overhaul of system of planning and the management of education. There is thus need to a) prioritise objectives and functions of the educational system including each of its sub-systems; b) identify alternatives and outline the best; c) assess the financial needs, identify alternative sources - both monetary and non-monetary, and d) resources allocation amongst different levels, types, and components of the system in line with the priorities accorded.
3. Changes in time perception of planners. The programmes need to be implemented with speed and alacrity to stay in tune with the requirements. This calls for realistic asessment of resources, fund allocation and timely disbursement. Lessons have to be learnt from past mistakes. If computerisation is envisaged then it must take cognizance of capital needs to procure not only hardware but softwares and peripherals and stationery items. Additionally, provisions have to be made for operators/programmers to implement the scheme. In past, the schemes failed as funds were provided to meet capital needs only. Annual maintenance expenditure was lost sight of. Such mishaps occurred even when Mission approach was adopted by the Govt. of India.
4. Universal elementary education, being one of the basic constitutional goals, needs to be accorded top priority for removal of endemic illiteracy. This is likely to assume greater importance with the proposed constitutional amendment aimed at making education a

fundamental right of all citizens. As such all constraints, financial and physical, have to be examined and removed

5. Inter-regional variations in literacy levels (as also those amongst states) need to be addressed and factors such as gender bias, seasonal dependence on child labour, parental motivation have to be tackled. This would go a long way in helping to eliminate child labour, enhancing the personal capabilities that are associated with the ability to read and write, besides child mortality.
6. The main challenge is to build political momentum by minimising bureaucratic indifference and interference and corruption. These inhibit practical implementation of programmes.
7. Student politics in pre-independence days had some ideological thrust. Such unions, originally organised for promotion of extra-curricular activities, development of cultural, intellectual and literacy pursuits and protection of student rights, have lost their purpose and have become adjuncts of political forces. Contests for control of student unions are bitterly fought among rival groups by different political parties on the lines of general elections. Present day campus politics reflects only group rivalries and factional fighting, often instigated by political personality clash. Ideology is missing and goal rather indistinct; with the result, politicisation of university and college campuses has assumed dangerous proportions. Criminalisation of politics and its extension into campus politics is another issue that is spreading very fast. everywhere, eroding democratic virtues and destroying moral values of individuals and institutions alike. This needs to be looked into.
8. There is urgent need to take stock of the education system as such and weed out the policies and procedures rendered redundant, consequent upon changes in the environment. Introduced by wealth generating systemic transition from peasant-centered agriculture to factory-based industrialisation to knowledge-based IT revolution.
9. Teaching curricula needs periodic review. Simultaneously, quality of education needs to be constantly improved upon. Factors that contribute to it viz. facilities, antiquated teaching methods, poor teacher methods, poor teacher qualifications, low teacher accountability etc. need be investigated and followed up through appropriate remedial action. There is also a need to reduce teacher-pupil ratio.
10. Innovative methods such as the zero-failure scheme introduced by Kendriya Vidyalaya Sangathan to involve parents, teachers in achieving improved performance of students met with success. Such initiatives need to be extended to other schools.
11. Private institutions such as NIIT that have shown the way through design of suitable courses, based on state-of -the art technology, for different segments of personnel in it's sector. Its various programmes e.g. the GNIIT have provided an alternate route to traditional graduate courses and opened new employment avenues. Such institutions hold promise and should attract attention of planners.
12. Confederation of Indian Industries (CII) has come forward with creation of 'Centres for Excellence' as part of its vision 2010; objective being to offer opportunities to practising managers to specific skills focusing on continuing education and value-addition to the existing workforce. There is need to put forth more innovative approach to further the cause of learning and supplement government effort in that direction. Government. has to rework its strategy to meet the challenges. In turn, the educational institutions have envision and devise appropriate strategies to allign themselves with the winds of change. It is the knowledge intensive IT sector that is slated to open up employment avenues for future.
13. It is understood that about 80% of student population does not go beyond class X. The drop-outs upto and inclusive of class VIII are over 12 million per year; around two million students cross class VIII but do not get beyond class X. "They form a large pool of unskilled labour force. There is need to impart training in acquiring skills-either in traditional or in new areas - for gainful empolyment.
14. Schemes be devised to motivate teachers and upgrade their skills with a view to enhance their participation and commitment to the educational process.

Summing up

To sum up, there is no denying that there exists a strong interrelationship between development and literacy and education. The nations that opted for that route are developed and reaping. An introspection brings out that the country started with an optimistic note but failed in achieving the goals enshrined in the Directive Principles of State Policy. A number of factors could be attributed to this. Basically , the Govt's campaigns or initiatives were launched without proper regard to languages, knowledge and the learning needs of individuals and the community or society at large. The Planning lacked proper vision and commitment; and was not backed by requisite resources and infrastructure. Apparently, there was no transparency. There was one-way communication of skills rather than concerted effort to enhance competence needed to empowerment of individual and community.

Nevertheless, country did make significant progress in the field. Meanwhile, rest of the world marched ahead making best use of technology. We still grapple with blackboards, chalk and duster against the backdrop of computers, networking and Internet elsewhere replacing classroom, revolutionising teaching as also gradually becoming a means of pre-schooling. Things can not and should not be taken for granted. Bold steps need to be taken. The education system together with curricula, teachers and related infrastructure needs total revamp to make it less bureaucratic, quality- oriented, and more relevant in today's environment. The system should, in fact, target at education beyond the text book, making students themselves address to the needs of society at large i.e. pollution, environmental degradation, behaviourial patterns and so an. Education should empower individuals to transform behaviour and make them recognize that "it is the small decisions you and I make every day that create our destinies". Massive investment is called for to adapt state-of-the-art technologies. This requires systematic planning together with periodic interventions.

Monitoring of such country-wide implementation has to be on scientific lines through an on-line MIS. While the whole nation talks of 50 years gone by, need of the hour is to unshackle it from illiteracy to enable the masses attain freedom in true sense of the word.

HRD Strategies for Globalisation of Education for Achieving and Sustaining Competitive Advantage Towards 21st Century

Shashi Agrawal[1]

Introduction

As we approach the 21st century the phenomenon of change has become an every day acceptable way of life. The social, economic, political changes have become wider in space, deeper is impact and at greater pace in life. The coming century is dominated by globalisation. The process of globalisation has been brought about by environment reformation -- physical, social, cultural, economic and technological. Indian economic and structural reforms leading to globalization means new skills and changing skills that must be updated constantly. It refers perspective planning and policy making for HR needs tomorrow to face the challenges of new century.

Human resources are the most vital inputs to the success of national, economic, and social development; while the skills, expertise and attitudes of the workforce are a pre-requisite for an organisations/institutions ability to adjust to changing situations. Due to the megatrends in information, communication, technologies, all have come to accept the new requirements of the restructural, re-engineered, reinvented organisations and jobs and processes. This posed the greatest challenge to the HRD professionals and institutions.

Globalisation and interdependence are the major forces in contemporary life world wide; as a result HRD professionals are faced with totally new challenges, the control of change is developing as a part of normal life and the control of conflict arising from change, must be a creative process in which conflict is regarded as productive opportunity. HRD become a multinational/global effort, how to keep pace with globalisation.

Keeping these views into the fore fornt, global education has a catalyst role to play in personal and social development, foster, a deeper and more harmonious form of human resource development (wholesome well being) and thereby reduce poverty, exclusion, ignorance, oppression, war and establish peace-culture.

Need

Globalisation refers not only in the economic field but simultaneously it refers to the globalisation in social, cultural, political and educational scenarios also.

Indian liberal economy and open market does not mean the over all globalisation. If we want to achieve and sustain competitive advantage in all the sectors and benefit from the process of globalisation then we are bound to re-organise/reengineering our education system and "globalisation of education for all" is the prerequisite for the sustainable development towards new era. Without the globalisation of the Indian education system, we cannot expect much more desired results from our most remarkable new education policy (1986).

In a world where speed, flexibility and costs are the key for maintaining a competitive edge, this divergence between the domestic and global (financial markets) aid agencies becomes an obvious and a serious matter in some situation. An upgradation of the financial system as well as human resources are thus required. But still we have not spent 6 per cent of GNP for educational purposes.

"The globalisation of our world economies cannot and shall not be limited to the industrial and commercial realms alone, increased cooperation and new partnerships in the educational domain are equally important for developing new opportunities within our societies and will complement economic advances.

Mahatma Gandhi believed that "economics cannot be divorced from ethics, and that knowledge in economics must be both fruit bearing and light bearing" Education means all round drawing out of the

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best in child and man-body, mind and spirit (vision of wholeman) for successful working of democracy, minimum universal primary education was indispensable.

"Education is indisputably the most effective way to shape values, attitudes, behaviours and skills that will equip the people of the world to act in the long term interests of the planet and humanity as whole. If world citizenship is to be understood as a universal principle, all programmes must have certain aspect in common. Based on the principle of the oneness of the human race, they should cultivate tolerance and brotherhood, nurturing an appreciation for the richness and importance of the world's diverse culture, religious and social system and strengthen those traditions that contribute to a sustainable, world civilization." (from Agenda 21, Chapter 36.3).

Statement of the Problem

"HRD strategies for globalisation of education for achieving and sustaining competitive advantage towards 21st Century".

Objectives

1. To identify and analyse the paradigms of globalisation and their consequence
2. To explore the stress of globalisation of humanity
3. To design the HRD strategies for globalisation of Education towards 21st century
4. To suggest the means for achieving and sustaining competitive advantage.

Variables

This is futuristic study and interdisciplinary in nature, and efforts have been made to study the perceptions of the sampled population of diverse background about the impact of globalisation on the human development. For achieving and sustaining competitive advantage towards 21st century, through future wheel exercise and opinions.

Meaning and Concept

What is globalisation?: Globalization means that the nation on its initiative must now be actively and fully involved in shaping a new world order, seeking both boarderless competition and greater cooperation in an increasingly more complex world.

- The globalisation requires that all the institutions and our attitudes, behaviour and consciousness be raised to globally accepted standard.
- Globalisation efforts will benefit the coming generaion more than the present one, because they are intended to build a better future for the nation.
- Globalisation is a forword looking strategy in the interest of future generations.
- Globalisation is a reform effort that requires the participation of all the country people. Globalisation can be truely successful only when every citizen is involved.
- Ultimate goal of globalisation should be to enhance the creativity and competitiveness of the nation.

Globalisation of Education

Globalisation of education means to maximise benefits by locating the production activities -- Training/Education/Development around the world for highest returns/services and investing wherever it is the most efficient and strategically profitable.

Competitive Advantage

Competitive advantage can be explained by how much they spend on research and development (R&D). Competitive advantage of nations can be measured through technological innovations.

Samples

The sample is confined to scholars, researchers, HRD Professionals, executives, public officials, intellectuals, academics, educators and others from diverse background. (N=200).

Tools and Techniques

Futures study has its own methods and approaches. The following futures methods were used for the purpose of the study :

1. Brain storm ng
2. Future wheel exercise
3. Scenario buildling
4. Opinionnaire of expert group

Methodology

- Megatrends set with the help of Brain storming session.
- Analyse and identify paradigm of globalisation and their consequences from the future wheel exercise and responses.
- Prepare variety of possible future scenarios.
- Select and identify possible futures towards planning.
- Use future trends in planning HRD strategies for globalisation of education and prepare plan of action.

Analysis and Interpretation

Analysis of future wheel responses and scenario building

After data was collected, the content analysis of the completed responses was done qualitatively. For the purpose of content analysis, major categories and subcategories were identified. After analysis of the future wheel responses given with reference to the paradigms of globalisation, as well as stresses of globalization on humanity, different expert group responses were also identified. Opinions of the experts were also analysed and utilized for emerging paradigms shift, sources of competitive advantage and implication of globalisation.

Megatrends

The process of globalisation now being shaped by physical, social, cultural, economic and technological environment reformations; were identified and analysed to project the most likely future paradigms.

Paradigms of Globalization

- Global interdependence
- Widening horizons of transnational
- Crossboarder technology transfers
- Free mobility of capital
- Cross breading in interfacing of technology
- Dismantling of the crossboarder barriers
- Emergence of new drives of change, information technology and electronic highway
- Knowledge is principle and mobile sources of values
- Transformation of the role models and mindsets both at micro and macro level
- Quality as a component distinct from physical change in organisational management/ development.

Stress of Globalisation on Humanity

- Identity vs. credibility/intergrity
- Global vs. local
- Universal vs. sectorial/individual
- Tradition vs. modernity
- Long term vs. short term
- Competition vs. symbiotic/cooperation
- Expansion of knowledge vs. application/capacity to assimilate
- Spiritual vs. material.

Overall Scenario

All the megatrends can be integrated into a overall scenario to help visualize what role globalisation can play.

Dynamics of Globalisation

- Continuous expansion of size
- Acceleration of speed
- Widened specturm
- Entangled interlinkages

Global Restructuring Demands

- induction and assimilation of HR's/global concept and practice of HR's
- Unfreezing of the old mindsets of the strategic planners/practices
- Building of a new environment consistent with international practices
- Adaptation of the international practices and tools to domestic suitability.

Change Required in Behaviour and Structure on HRD

- Vision
- Content
- Design
- Delivery
- Deployment

Conclusion

On the basis of the different scenarios and from the analysis and interpretation of the data as well as from the results of various components following conclusions were drawn :

The scenario of future paradigms of globalization generated through this study may act as a guidelines for the HRD professionals/educationists to prepare workable futuristic model and programmes for global education/HRD.

- The changing world scenario and stresses of globalization of humanity according to the perceptions of the experts determines the new principle of world citizenship.

On the basis of this study the author has designed the HRD strategies for globalization of education and workable implication model as example. In addition to visualize, new professional skills, required for achieving and sustaining competitive advantage towards 21st century (Annexure 1-7 see pages 469 to 476).

The process of globalization is the product of structural adjustment dynamics. With the expansion of size, acceleration of speed and complexities of interlinkages the dynamics of change and

methods of handling change have also become complex alothough more productive. Significantly there are not isolated phenomina. Each one has a multiplier effect which reflects high power of change.

All the areas of Human Resource Development must undergo metamorphosis to align and be consistent with the newly emerging techno-economic scenario. When content/need analysis design/delivery system and evaluation are not in conformity with the new scenario, significant aberrations are likely to occur.

Management is the science of the 21st century. This century will rely on information technology. During the next decade the need for global managers will grow more acute but there will be a critical shortage of skills in existing workers/employee. Due to globalisation our world is characterized by rapid and drastic changes in almost every era of human life. Organisations are facing tremandous challenges in their attempt to survive and prosper. Successful organisations have clear mission, vision and measurable goals. To achieve organisational goals in our turbulent and highly competitive environment. effective training and development of people is vital. The future survival and profitability of our organisations demand special focus on preparing leaders to manage the future change. Upskilling, succession, planning for the nationals and the mastering of new technology all of these impossible to achieve without effective education, training and development. The most important component of organisation system, that is human capital. Competitive advantage as an achieved capacity, human capital, and multiple paths to growth and development, the role of the market and the private sectors is becoming increasingly crucial in achieving sustainable growth and development. These emerging parameters has demonstrated clearly that the quality, competence, culture of the people of particular nation and the ability of the institutions of that nation in mobility the inner forces of its people are the major factors for acquiring a competitive advantage and in sustaining it These attributes determine the capacity for development and growth as they are the attributes of country's human capital. Micro as well as macro management are emerging as important determinents of growth and development through their ability to provide the right mix of policies towards challenging objectives and to mobilize people's energies towards these goals. With the spreading impact of globalization and the penetration of the competitive forces in various sectors in different regions of the world the sources of competitive advantage emerging as engines of development and growth (Capacity to learn, efficiency and social harmony).

The aims and the means of education is an ongoing process of improving knowledge and skills it is also means of bringing about personal development and building relationship among individuals, groups and nation.

Globalisation of Problems

- Evident in rising unemployment
- Inequalities in development worldwide
- Cultural adaptation and the modernisation mentalities
- Social and economic injustices.

How to Overcome the Issues

- Learn to live together in global village
- Manage to live together in communities/nation/region/city/ village/neighbourhood
- Sense of responsibility
- Renewal of practical democracy
- Mutual understanding among the people.

Globalisation of education is the way in which education policy can help to create better world of the 21st century.

"On the threshold of the new millennium, the drive toward world unity has become one of the dominant, pervassive features of life on the planet. Perceptibly now, a global consciousness is emerging. Constructing a peaceful planetary society is essential to humanity's very survival. The oneness of the humanity with its corollary of unity in diversity is essential. In our increasingly interdependent world, it is no longer possible for people or a nation to achieve lasting prosparity at the expense of other peoples and nations. Thus real progress on achieving durable social integration alleviation the root causes of poverty

and expanding sustainable productive employment can only be achieved through those strategies and actions that foster unity both within and among the nations of the world.

With the globalisation of education for all -- we must promote the principle of the oneness of humanity and nurture an understanding of the inexorable, albeit turbulent, progress of civilization toward global integration and world unity.

Only as the peoples of the planet embrace this principle and discern in the vast changes sweeping society the signs of integration will they develop a sense of confidence about the future, be willing to sacrifice for the common good and be empowered to play an active, constructive role in the local, the national and ultimately, the world community. The capacity to think globally is increasingly becoming a pre-requisite for the social and economic development of every nation and people. For in such a global consciousness are rooted the knowledge, attitudes and skills needed to function effectively in our rapidly integrating world People of the world come to view the planet as one home and all its inhabitants as one poeple, will the vision moral integrity and commitment necessary to address the complex challenges of social development emerge. Then and only then will human kind be able to erect a single social order whose boundaries are those of the planet. "Glory not in love for our country but in love for all mankind" (Baha's international community, 1994).

Implications

(1) It has implications to designing the futuristic Global Education Programmes and processes of HRD sectors.
(2) It also has the point of consideration to redesign the role of educational institutions towards globalisation.
(3) Implication for training/education and development institution for 21st century.
(4) It has implication as a model for other developing countries also.

Plan of Action

1. Education Policy - Reorientation for changing scenario arising out of globalisation.
2. Customer (foreign students; institutions, universities) driven training to equip all concerned in education/industry/community.
3. Marketing strategies and compatible training software development by educational institutions and government.
4. Application of concept of reengineering to diagnose and revival of sick units/institutes reengineering also needed for survival and growth of others.
5. Management - institutes of repute to conduct cost effective programmes for education institutions, professional bodies may promote such efforts jointly.
6. Developing comprehensive hand on basic technical education on significant scale in relation to non-technical and general education.
7. Benchmarking management technical and general education to international standard.

Kingpins for Generalisation Towards 21st Century

1. Need for international cooperation
2. Aid policy should be made to evolve partnership cooperation and exchanges within regional groupings
3. Encouraging alliances and cooperation between ministries at regional level and between countries facing similar problems
4. Helped to stress the international dimension of education provided
5. Now partnerships between international institutions dealing with education
6. At international level gathering of data on national investment in education should be encouraged.
7. Establishment of suitable indicators for revealing the most serious dysfunctions of education systems.
8. Watchdog on new information technology, their evaluation and their foreseeable impact on education as well as modern societies.

9. Intellectual co-operation in the field of education should be encouraged equitable sharing of knowledge between countries, dissemination of information technologies and student, teacher and researcher exchanges.

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Opinions from the Expert Group

(i) Emerging paradigm shift for sustainable growth and development

From	To
• Comparative Advantage (Nature given)	• Competitive Advantage (Achieved capacity)
• Material Resources (Land/capital/natural/res.)	• Human (Resources) Capital
• Single path to growth and development (Market driven/state controlled)	• Multiplepath to growth and development (Private sector/Market forces)
• Quantitative assets (Traditional driving forces capital)	• Qualitative features (Mobilising inner forces of the people)

(II) New Age HRD Skills for Globalization of Education

- High professionalism
- Creative insight
- Versatility
- Flexibility
- Focus and prioritization
- Patience and long term strategies
- Facility in using technology
- Hard/soft ware
- Commitment to profession
- Code of ethics (global)
- Global thinking
- Strategic long term planning
- Ability to effect change.

Fig. : **Globalisation of Education : Tako Caro with the KINGPINGS**

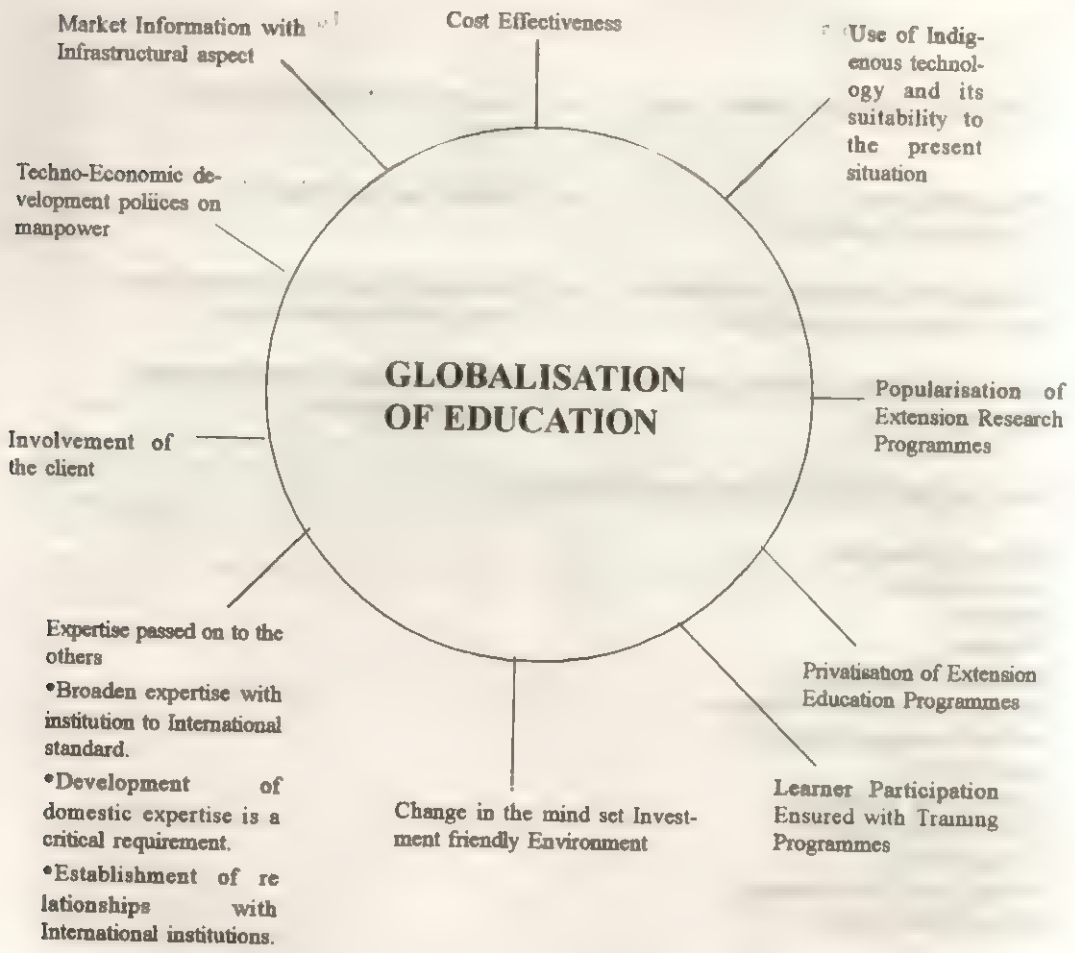


Fig. : **System desing - Implication for HRD**

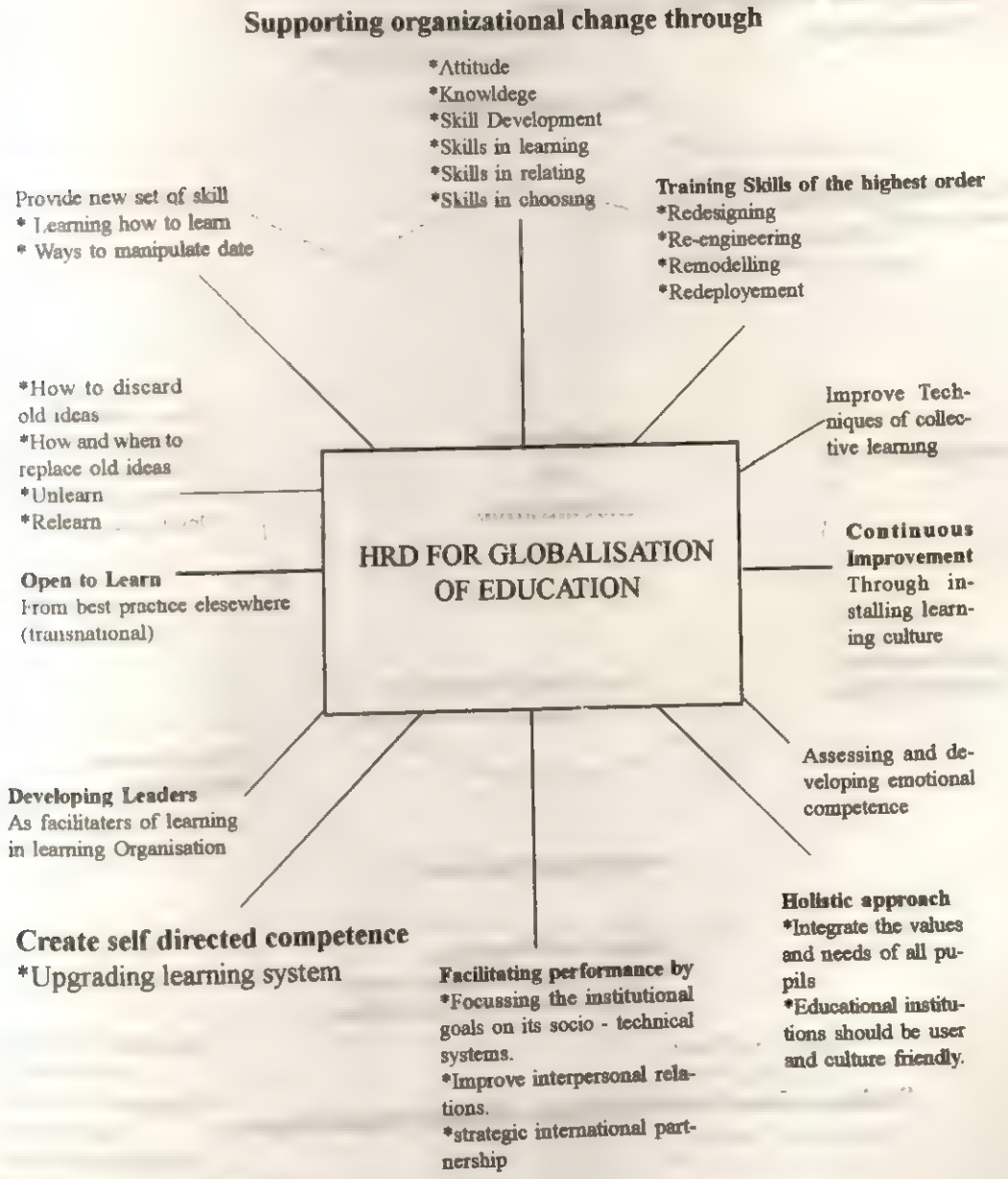
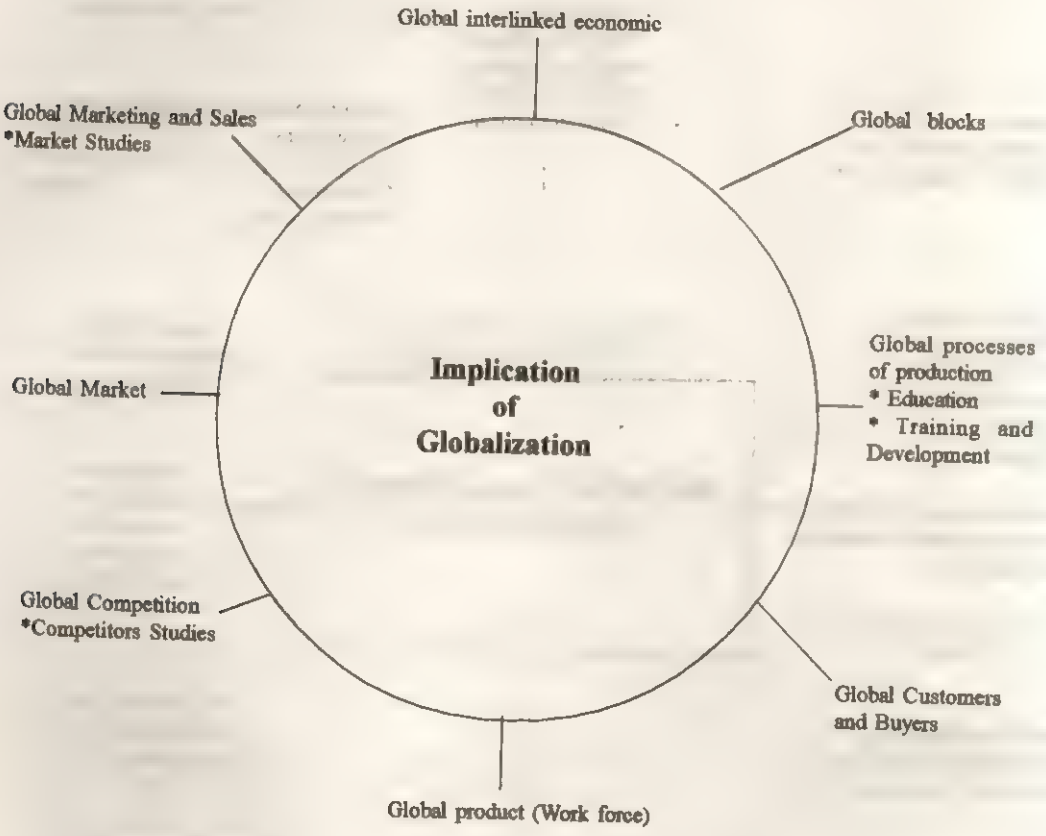


Fig. : **Implication of Globalization**

Global HRD. Profesionals /Educators
*** Global HR'S**



* Compete with Global Market
* Ability to comare with quality, speed of response, cost effectiveness and innovation

Students = Raw Material/Teachers =Workers/School =Factory

Fig. **HRD Enables Institutional Performance Excellence**

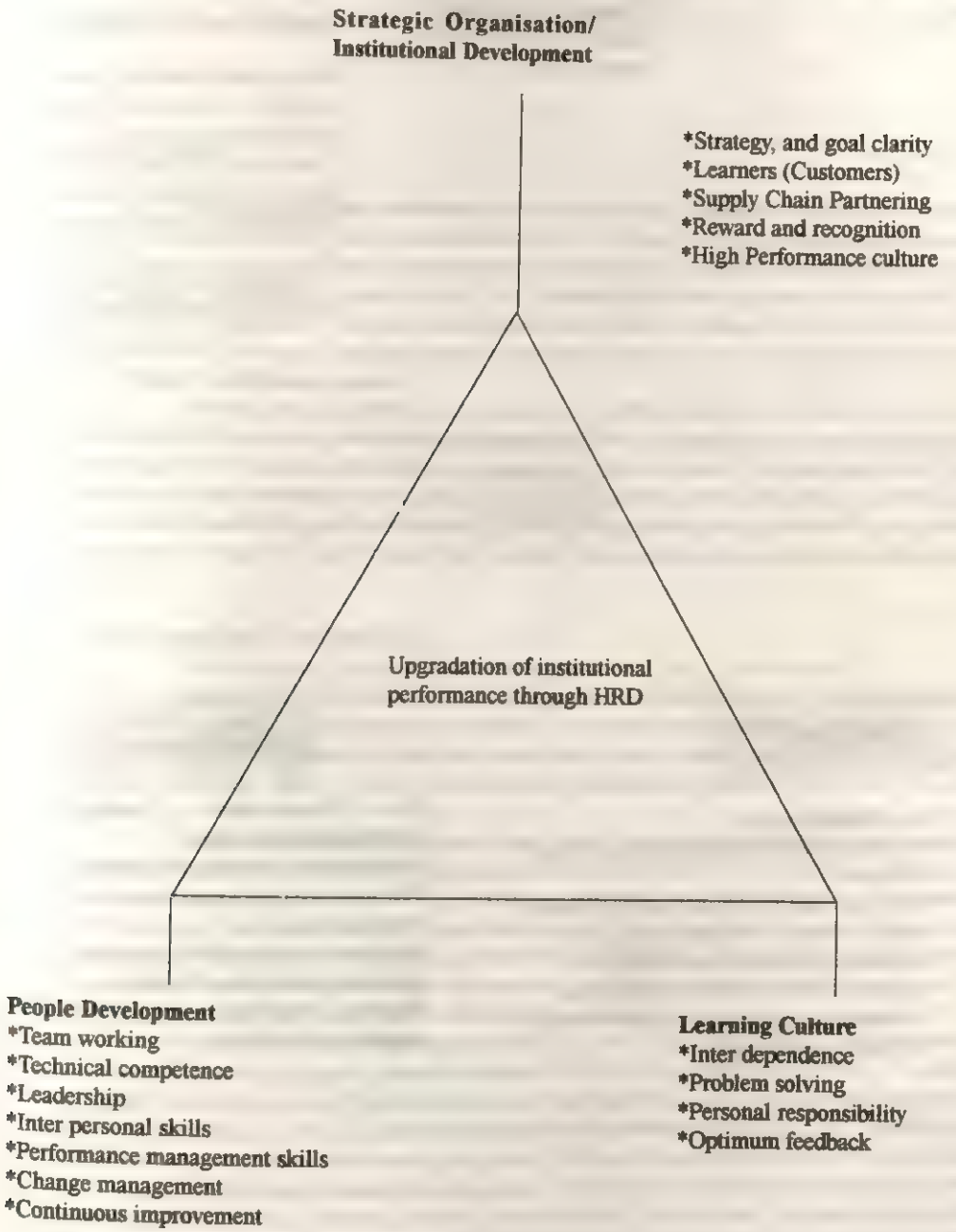
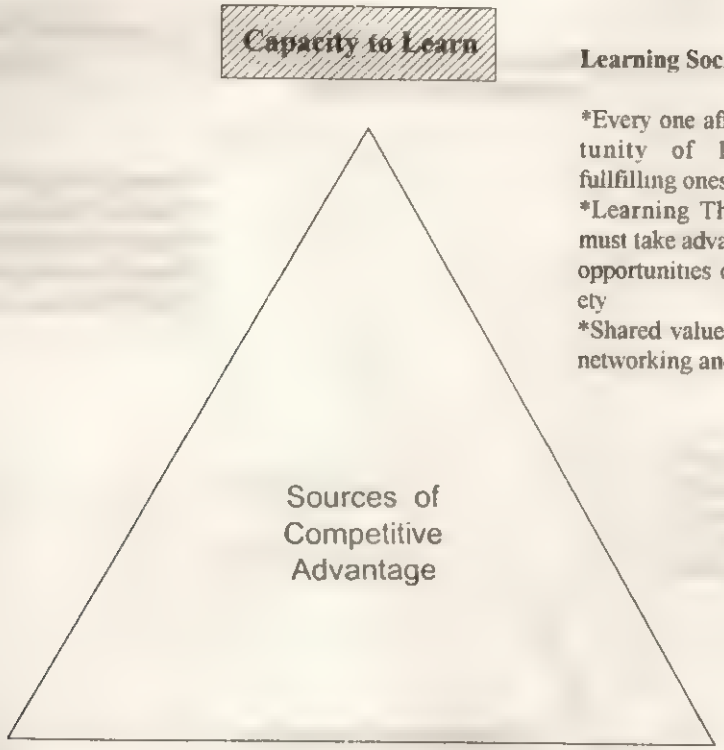


Fig. : **Sources of Competitive Advantange**



Learning Society Requires

*Every one affords an opportunity of learning and fullfilling ones potential
*Learning Throughout life, must take advantage of all the opportunities offered by society
*Shared values and goals on networking and partnerships

The efficient society

* Whole society becomes continuously more efficient
* Well directed investment in research areas which hinder development and growth
* Enhance productivity and improved resource utilization in different sectors
* Reforming accountability system in society
* Collective accountability

The Harmonious Society (Homogenous societies)

*Minimize the level of social conflict
*To have relative harmony in the society at long,
*Harmony i s derived from adherence to deeply rooted cultural norms.
*Greater investment in people and upgrade quality of life.

MEDICAL EDUCATION

50 Years of Independence

Education is a capital to the poor man and an interest to the rich man.

Anon

Asha Sawhney[1]

Overall Status

Indian doctors have established high standards and recognition the world over, because of their cognitive, psychomotor and communication skills in the medical field. Medical profession is considered to be a noble one as it helps save human life by prevention, cure, rehabilitation by alleviating pain, disease and apathy. Within the country also, the opportunities for high-tech professional practice has tremendously expanded. This, and other reasons tempt every individual to first aspire for admission to a medical college, in case of inability to get through in the repeated entrance examinations that one opts for other fields of professional courses.

At times the aspirations of the parents are fulfilled through the children even if they are not self motivated to take up the medical profession. Such is the apathy of many budding doctors, who cannot cope with the vast knowledge to be acquired, lot of hard work, physical, mental and psychological, including the fast innovations to be updated in technology and approaches, that can drive them to go into depression or mentally, psychologically or physically, succumb to the pressures of the medical studies. At times these adolescents have ended their precious lives, leaving behind misery for their family and the society.

Medical Education - Our Heritage

History of Medical Education in India dates back to 2500-600 B C. The foundation of Indian Medicine was laid by Charaka, and Sushruta, who wrote and practised an old treatise of internal medicine. There is evidence to show that the ancient system of medicine in India laid emphasis on high standards and high ideas. Even the selection of students for medical education was restrictive and rigorous.

Pushman refers to Sushruta and quotes that "the doctor should choose, as his pupil, the son of a Brahmin, Kshatriya or Vaish of good family; he should be sixteen years of age, should show respectable behaviour, and should possess love for cleanliness, kindness and bodily strength. He must have a good understanding, memory and desire to learn and to reach the ends he has in view. He must have a clean tongue, small lips, regular teeth, noble countenance, well-formed nose and eyes, cheerful spirit and good hearing and must be prepared to undergo weariness and pain. And, whosoever possesses the opposite characteristics would not be admitted to the doctor's calling".

Thus the criteria for admission to medical profession in ancient India pertained to age, family background, personality, profile, intellect, motivation, aptitude, and physical fitness. The broad objectives of medical education were well defined even in the ancient Indian era. The medical approach even at that time was with enough emphasis towards preventive and promotive healthcare, even though the prime aim was treatment of the sick. Promotion of vigour of the healthy was one aspect of the approach and on the other hand alleviation of disease in the ailing. Even during those days surgery also formed part of medical practice. The skills for surgery were imparted through well planned practical exercises on dummies. According to Sushruta (Sutra 10.10) the requisite qualifications of a physician were "having studied the science, having fully grasped the meaning, having acquired practical skills, and having

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performed the operations on dummies, with ability to teach the science and with the permission of the king, a physician should enter his profession".

The modern system of medicine is according to the British and American pattern. In Great Britain, General Medical Council was established in 1858, to superwise and regulate the standards of professional knowledge and be responsible for registration of qualified medical men as well as publication of British Pharmacopoeia. The Medical Education Committee in 1867 formulated a broad plan of Medical Curriculum, on the character, content and order of the subjects to be taught for the study of medicine.

On the other hand medical education in the United States figures back to about 200 years. The colonial India had a lot of impact from the advancements of medical field in Great Britain and the United States. Establishment of Medical Colleges in India started first at Calcutta, followed by Madras then Bombay and Goa almost simultaneously. This spread to, Hyderabad, Ahmedabad, Bangalore, Poona, Ludhiana, Amritsar, and Agra.

Since the Independence, medical colleges have multiplied manifold from 27 to over 200. The Medical Council of India was constituted in 1933 and took over the role of General Medical Council of Great Britain for maintenance of uniform standards of medical education.

The role of Medical Council of India (MCI) defining the powers of the proposed council :

- determine the qualifications and conditions necessary for recognition, including scrutiny and approval of the course of study
- employ and maintain medical inspectors
- arrange and bring into effect any schemes of reciprocity with any British colonial and other foreign medical licensing bodies and authorities.

National Health Policy

As a signatory to the "Alma Ata Declaration" in 1978, the Govt. of India has committed to take steps to provide Health For All (HFA) to its citizens by the year 2000 AD. In pursuance of this objective, various attempts have been made to evolve suitable strategies and approaches in Medical education and Health care delivery. National Health Policy echoes the WHO call for HFA and the Alma Ata Declaration, has laid down specific goal in acceptance of various health indicators by different dates, 1990 and 2000 AD The Ministry of Health and FW, Govt. of India evolved a National Health Policy in 1983. Keeping in view the national commitment to attain the goal of HFA by the year 2000 AD, the policy lays stress on the Preventive, Promotive, Public Health and Rehabilitative aspects of health services.

Health Indicators and Future Goals

Goals set by the Government, through the Health and Family Welfare Programmes

Sl. No.	Indicator	Current Level		1985	1990	Goals 2000
1	Infant mortality rate (IMR)	Rural	136 (1978)	122		
		Urban	60 (1978)	60		
		Total	125 1978)	106	87	<60
	Perinatal mortality		67 (1976)			30-35
2	Crude death rate (CDR)		About 14 12	10.4		9.0
3	Pre-school child (1-5yrs)mortality		24 (1976-77)	20-24	15-20	10
4	Maternal mortality rate (MMR)		4-5 (1976)	3-4	2-3	<2

5	Life expectancy at birth(years)	Male	52.6 (1976-81)	55.1	57.6	64
		Female	51.6 -do-	54.3	57.1	64
6	<2500gm birth weight Babies (%)		30	25	18	10
7	Crude birth rate (CBR)	Around	35	31	27	21
8	Effective couple protection (%)		23.6 (March'82)	37	42	60
9	Net reproduction rate (NRR)		1.48 (1981)	1.34	1.17	1.00
10	Growth rate (annual)		2.24 (1971-81)	1.90	1.66	1.20
11	Family size		4.4 (1975)	3.8		2.3
12	Pregnant mothers receiving Ante-natal care (%)		40-50	50-60	60-75	100
13	Deliveries by trained birth attendants (%)		3-35	50	80	100
14	Immunisation status (% coverage					
	TT (for pregnant women)		20	60	100	100
	TT (for school children) 10 years			40	100	100
		16 years	20	60	100	100
	DPT (children <3 years)		25	70	85	85
	Polio (infants)		5	50	70	85
	BCG (infants)		65	70	80	85
	DT (new school entrants 5-6 years.)		20	80	85	85
	Typhoid (-do-)		2	70	85	85
15	Leprosy (% of disease arrested cases out of those detected)		20	40	60	80
16	TB (% of disease arrested cases out of those detected)		50		60	75 90
17	Blindness (incidence %)		1.4	1	0.7	0.3

Source: Document printed at MMU Press, department of Family Welfare, Government of India, Koala Road, New Delhi-110 002.

Doctor next to God a Myth or Reality !

The history of Medical Education shows that a doctor has to be a thinking doctor who has to diagnose on the basis of history, physical examination, investigations and reconfirmation through the use of advanced and expensive technology. Does the consumer today have the time, energy and stamina to wait or tolerate delay in diagnosis or treatment !! It is a question to be for introspection of each and every member of the society. Surgical interventions are per force demanded by the health care receiver. Such demands made of a doctor are at times so irrational that it becomes a delimma for him or her, whether it is the issue of a visit, diagnosis or treatment. Many a times, treatment is dictated by the patient or the relative, especially if known to the doctor or due to some higher contacts. The cost of medical care, with the innovations in diagnostics, imaging techniques, and in intervention techniques has also tremendously increased, which is translated into greediness of the doctor.

With the advancement of technology and the available options left for the patients, ethical issues are played with and doctors pressurised to act as per the wishes of the beneficieries of medical services. Doctors are even assaulted in public for not being able to attend to a patient, by the accompanying ignorant relative(s) or friend(s), who instigate legal action against the attending doctor. This results in distrust of doctors in handling Medico-legal cases as it unnessasarily wastes the valuable time of the clinician in attending the summons of the court of law. The legal issues involved in handling roadside accidents resulted in death of a many unnecessarily due to delay or unattended cases. Where then has gone the faith and trust of the society in such doctors, who are God sent in medical emergencies, at the time of peace as well as war !!

Today, any member of the society aspires to be a doctor, by getting admission by any unfair means and wants to be passed, whether fit to be passed or not, and becoming a threat to the society. Pressure from all corners is used to do so and even result in threat to the life of the examiners, if they do not fulfil the demands.

Impostors, in the field are another threat to the profession besides the malpractice by many of the substandard practitioners (who may be passing by pressures), in the field. Today, a medical dispenser or a pharmacist also starts practising, unless a check is kept by the authorities, be it, Medical Council of India or any other. The mushrooming of the nursing homes and clinical laboratories set up by the business groups with visiting physicians or specialists, many of which are not even registered or meeting the standards set by the government. Who is then responsible for all this !

With the ever growing population and the influx of people from all states towards the centre, the pollution rate of all kinds is always on the increase. This is where the political commitment is equally essential in keeping the, population, hygiene, sanitation, air, water, pollution, noise and preventable diseases, under control.

Even in the rural India, people have been made aware through media of the innovations that, it has become a status symbol to get investigated and treated at hospitals equipped with modern and high-tech facilities, than in a general hospital, where even if their own child would be getting trained or be working. Money, to the general public does not seem to be a constraint, except for the middle class society in India.

A doctor, of this modern era is enamoured by the circulation of money in the society and can get trapped by the demands of the society and forget or distort the medical ethics once so dear and near to one's heart and clinical practice. This is where the consumer can trap the noble clinician to his/her advantage and tarnish the professional image of that person. The moral values and ethics engraved in a trainee have been diluted by the glamour of the society where the joint family environment once helped one to get trained in these values through the home environment and the role play of the senior members of the family. Such a person would develop tremendous willpower, commitment and perseverance during the growth period of childhood and adolescence, which not so common now.

Are Doctors Next To God and Not Human Beings as others ?

India is celebrating the 50th anniversary of her independence, and projecting the achievements met in these years in the various fields of economic development strategies. These strategies are most significant in the Education, Health and Economic areas, as the key role played by each. Does this mean that these are parallel to the 5 year plans and the budget allocations thereof. This has a great impact on the development and image of the country as the global issue. Introspection into these issues highlight the lacunae and problems in our field of education, training, management and administration of health care services extended. Our country is first and only example of certain aspects of these issues. Yet, we are still counted in the developing countries, with richest resources and initiatives but, not being recognised by our own country which have driven our experts and their expertise to the western world. It is high time we preserve, nurture and give opportunities to our own fellow citizens, and retain them as well as their expertise for the betterment of the humanity.

Resources made available to the education and health care system are not enough to achieve the goals set as the National Health Policy and the National Health Programmes planned thereof. On one hand we talk about the economy of the country and, on the other side the scams, and the revenue spent on political and other issues of the country show a waste, which could be planned to be used in a more fruitful way. This paradigm is coming and shall continue to come in the way of the generations to come of the taught and practice. India and Indian rich resources (manpower, money and material) have always been an eye sore to any nation and its people.

Take for example Management especially, Systems' Approach is an area borrowed from the Medical field and applied in management. Similarly, management is a word used in the medical field deals with the various forms of treatment of the patients. Today Managers and Technologists claim to govern the Educational and Customer services, be it manufacturing, procurement, or health-care systems and are placed superior to those who have been taken as next to God, i.e. the Doctors, the one who can give life to the sick and the injured.

The corporate approach of the modern hospitals and nursing homes are attracting the Indian doctors who were earlier settled abroad to earn and live a better life than what their equivalent or counterparts in government service would be enjoying.

The medical student of today has to bear a lot of psychological, physical, mental, and professional stress, for a longer period till they are settled in their professional career, than what was the earlier trend. This has set in, with the introduction of super-specialities in some of the medical and surgical fields. Moreover, the time spent in completion of training and compulsory apprenticeship is much more than their counterparts in IAS, Engineering, and other Professional courses, which is also not proportional to the earning capacity, and inflation rate, recognition in society and authority cherished by those graduates or postgraduates. This sets in a state of frustration, as the earning capacity and the social demands and status do not go hand in hand.

Gone are the days when every graduate in the medical field was absorbed either in post-graduation, service, practice or would go abroad for further studies. The doctor of the 60's and 70's could afford a family in a relatively decent manner, as the perks of the job, like non-practising allowance 50% of the basic pay, suriety of admission of children in a public school, decent government accommodation and respect of the doctor in the society were enough to continue in a government job. Today it is not so, it is even difficult for a single earning member, that too, in a nuclear family to be able to have both ends meet.

All doctors and health care delivery personnel are doing their jobs satisfactorily through a rigorous training for long periods of graduation and post graduation before they can be taken into the main stream of teaching, curing or both types as a team member of their fraternity. Are they being given enough recognition and placement at par with, their years spent, knowledge gained or as equal citizens of the country who also have to lead a life as any other human being with similar systems, desires, psychology and dedication which is much more than any other service or category of the society.

A doctor who was once a noble professional, has been dragged down by the society for their personal level demands which have added on to the deprivation of the facilities, recognition and fulfilling of necessities of day to day life of his/her family. Today a doctor has to struggle and waste valuable time and energy in fulfilling the necessities of life to make both ends meet. Where is the time, energy and commitment left for him/her for giving the best of the profession.

With the increasing demand of every parent/child to become a doctor so as to go abroad for further studies or to serve or practice medicine and try to avoid staying and serving in their own country. Who is to be blamed for this approach and attitudes. If it is not any exaggeration, it is the overwhelming desires of the parents being fulfilled through their children ,that force used for admission and passing the exams in an unsatisfactory manner, risking not only themselves but, the society by their substandard performance and practice there after. The mushrooming of medical college, especially, some of the private ones their substandard facilities and training has led to the dilemma of whom to contact in case of emergency and especially after finding out as to which institution did that professional graduate or did post-or-super-specialisation. dilemma of whom to contact in case of emergency and especially after finding out as to which institution did that professional graduate or did post - or super-specialisation.

Today's Needs

The context of the today's population, socio-economic development and the existing health status of the people, the National Health Policy of India needs to establish:

- a comprehensive Primary Health Care Services to reach the people of the remotest areas of the country
- integrated socio-economic development
- de-centralised system of health care services
- maximum community participation through motivation

We need to publicise the Goals, present status and future plans for bridging the gaps. The community has to be not made aware of all this otherwise how can they be motivated to participate in helping to achieve the goal(s) set by the government. The reason for selection of this forum is to highlight the positive and negative aspects of the goals, indicators and their results.

Elements to achieve the objectives laid down :

- greater awareness of health problems and means to solve in and with community participation
- supply of safe drinking water with basic sanitation, using cost effective and innovative indiginized technology
- reduction of existing imbalance of health services by concentration on rural health infrastructure
- establishment of a dynamic health management infrastructure to support the health planning and implementation
- provision of legislative support to health protection and prevention (safety laws)
- concentrated action to combat wide-spread malnutrition
- research in alternative methods of health care delivery and low-cost health technology-
  - * Primary health care
  - * Target-free Approach (Quality Vs Quantity) in Family Planning Programmes
- greater co-ordination of different systems of medicine (Indian systems of medicine, depot started at Central Govt.

Milestones of Medical Education - 1947 to 1997

Eligibility Criteria

A change from Ethical status to Socio-political status

Entrance Procedure

A change from Purely School Merit to Competition after School Merit

Duration of Course

Course	5 years to 41/2 years at places Semester System
Training	6 months to 1 year

Medical Colleges and Seats

Increased over the years with more and more private medical colleges coming up in many states of India. This has generated more employment but does not keep pace with graduates coming out of all these medical colleges especially the standards of the skills acquired with disparity of available resources from state to state and college to college.

Curriculum Design

Inputs	Money	*Health Budget reduced over the years
	Man-power	*Less Number of teachers are attracted towards Pre- & Para- Clinical Specialities *Number of Clinical Specialities and Super-specialities Increased over the years *Patient Attendance increased in OPD Emergencies Special Clinics & Indoor
	Material	*Conservative to Innovative -Technical & Office Equipment use is on the increase not only in the metropolis but, also in state medical colleges for research and training *Study material in the form of human subjects, print media, electronic media as well as simulators have been on an increase since the sixties and more so since the eighties and the nineties *Museums as resource Centres are being updated in Anatomy, Pathology & Forensic Medicine

	* Innovative Technology, Educational, Diagnostic, Preventive and Therapeutic
Process	*Subject based to Integrated / Problem-based / Improvised Problem-based * Traditional Professional (1^{st}, 2^{nd} & 3^{rd}) / Semester system are the methods followed by different universities and autonomous bodies. Of the MCI has made it mandatory for all medical colleges to follow a similar pattern, country wide
Evaluation	*Methods, Tools, Instruments used and standards set, have been changing from decade to decade, institution to institution and speciality to speciality in different grades *Pass percentage of each speciality and each professional examination has increased although at times the value judgement is more objective than the earlier trend of being quite subjective *Number of distinctions in each speciality have been on the increase with the change of learner oriented and more objective methods of evaluation *MCQ as method of evaluation is not yet followed by all specialities and that too uniformly by all the universities
Output	The standards laid down by the team is not the same over the years. This has resulted in disparity of goals set by different universities and medical colleges especially the autonomous bodies.
Feedback	*Formative and summative form of feedback to the students teachers and the administrative authorities is given at the regular, scheduled time *Necessary strategies are planned for the change required and then implemented for further feedback *The Educational Spiral keeps on moving on and on with modification here and there as and when required.

Socio-cultural Patterns

The medical students of the forties to seventies had a regular schedule of Sports, Cultural and Social Activities within Inter-class and Inter- college of the same place as well as from all over India.

Teacher / Taught Relationship

In India the Traditional 'Guru-Shishay Parampara' (Teacher / Taught Relationship) is still maintained, especially in the state medical colleges. In other institutions the trend is more towards bridging the gap which at times has proved to be of not much benefit as the chances of taking the

advantage of the situation cannot be ruled out. Gone are the days of teachers as a terror for the students or showing any bias or vindictive attitude. Today a learner has the opportunity and guts to interact with the teacher, even the head of the department or Institution. Student Unions are having regular elections and active role to play, although no check may be on their showering the benefits to only the few more vocal personalities.

Instructional Methods

Change in Trend from

*Teacher oriented to Learner Oriented
Passive to Active, Interactive & Distance Education
*Changing Paradigms of Instruction has benefited both the teacher and the taught

Learning opportunities

Appropriate & Long Term Memory through Reinforcement Strategies

Medical Ethics

Orientation and practise is part of the medical curriculum. Practise varies from one's own commitment to the profession and attitudes toward life.

Opportunities for Fresh Graduates

In the earlier days, the graduates had enough opportunities as they were enough for the majority to either go in for, research, post-graduation, practice or even go abroad for higher and super-specialities. Most of them would come back to serve the country and others would stay back striving for more opportunities and research activities. A graduate of today is not yet settled and has crossed the age at which others would be employed and get much higher scales of pay and perks. Today even a post graduate faces the same insecurity because of the super-specialities for which there is demand in the society and the profession-a status symbol. Who is responsible for this is essential than to rectify this, as such individuals are not confident and do not want to settle in family life till they have a secured job or practice to fall back upon. A women doctor has more problems to face than the male counter part as, completing the family before she is 30 years of age leaves hardly any time for them to looking forward to a normally developed new born. This is a great mental stress to the couple and their family which in turn is social and national issue.

Social Status

To be or have children to become doctors is the most wanted and cherished dream of not only those who come from a doctors family but, also in the society by any caste or creed. Image projection of a doctor is the limit to the benefits extended to this member of the scientists group, who are day and night time striving to do the best for the patient and the nation without much time left for the remedy to this socio-political aspect of their benefits. With the Corporate Trend of Health Care Delivery Machine the Brain drain is returning to country for good. This has also become a status symbol for the rural as well as urban beneficiaries.

Medical Vs Para-medical Social Status

A doctor still is the leader of the medical team of professionals. There was a time when the doctors were highest of the social strata and all others especially the para-medical professionals, taken with a stigma at the second, third or fourth grade in the society. Today the stigma is no longer there rather people try to take up a profession of lesser duration and in which a person can settle faster in practice to start earning and have a family.

International Status of Indian Medical Graduates

The top performers from any university or college are identified and attracted by the foreign universities and schools especially for research. This entraps the cream of our professional stream and makes it difficult for them to return after the tenure.

Income Capacity

The earning capacity of a Medical graduate is much less than their counter part in any other professional carrier after the number of years put in for just graduation. Those who are lucky enough to get into a permanent government job are better placed than the others who have to struggle for higher education or even a suitable job in a private set up as the experience has yet to be gained. For people to be committed to their jobs they should be paid enough to support their parents/family/both.

Incentives for Doctors and Professional and Social Commitments

A doctor is trained first to take care of the patient and then himself and the others (family and friends). This was being fulfilled till the seventies thereafter the inflation rate and the de-linking of non practising allowance as basic pay has resulted in a lot of disparity in the facilities availed of earlier as compared to today and also the social image is let down. A medical graduate is not in demand in the social market unless he is doing, or one who has completed post-graduation (preferably).

Drugs, Sex, and Crime on Campus

There was a time when these elements were part of the social set up, and as these students are as human as others, they also fall prey to and victims of these evils at times. Some fall prey because of stress of the vast knowledge which they have to acquire, while trying to fulfil the aspirations of the parent(s) driving them into traps of different kinds, without realising the consequences. The adolescent age, with hormones playing havoc they try to demonstrate their gender issues, and cannot control themselves as no body is there to guide them in the right path at puberty during the school period, neither at home nor in the school. They get wrong or distorted information and start applying that uncooked or half cooked knowledge

Counselling services at school level on Sex Education is a must in today's world.

Are Colleges Preparing Teachers for the 21st Century,
who know what Medical Students should KNOW ?

Till the setting of National Teacher Training Centres in Educational Science Technology, there was no formal training in Teaching/Learning. Now that MCI has made it mandatory to set up and CME Cell or a Department, there is hope to have all aspiring teachers and in-service teachers to be trained in the science and art of teaching. As these training courses are becoming quite popular because of the seriousness of the purpose, teachers willingly wanting to joining the training courses in this field, which equips them better for teaching effectively, by setting objectives for the topics in the area, selection and appropriate use of evaluation methods for the taught and the programme. Latest trends introduced especially Systems and Systems' Approach and computer applications in Medical education are the most sought for.

The Future of Medical Education and Training for CONTINUING MEDICAL EDUCATION (CME)

Continuing Medical Education Programmes are not new. They have been there in each speciality as well as forum for integrated approaches. The Inter-disciplinary approach has benefited the

maximum in introducing and helping to apply in appropriate situations. The in-service facilities for training have helped the most.

Awards for Education & Technology

B C Roy Award

President's Award

ICMR, CSIR, etc

The Author was awarded a Cash and Certificate for presentation of a paper on "PROGRAMME EVALUATION" at the National Conference in 1988 at CMC, Ludhiana, Punjab, INDIA and Two Medical students have been awarded for a paper on "NATIONAL HEALTH POLICY-STUDENT'S POINT OF VIEW" by the All India Association of Advancement of Medical Education,

Publications in Medical Education

There are many publications on Research in the field of Medical Education countrywide in Indian and Foreign Journals.

Faculty members of each medical college, all over India have done a lot of research on various aspects of under graduate and post graduate level teaching and learning strategies including evaluation, and have either presented papers at national and international scientific meets or have published in national and international journals and books..

Every NTTC Course incorporates one Project in Medical Education at each centre by each participant.

Indian & Foreign Journals of Medical Education & Teaching

(to list a few)

Indian Journal of Advancement of Medical Education

Media & Technology

All Journals of individual specialities

Medical Teacher

Medical education

Journal of Educational Technology

Medical Education of Tomorrow !

The task before us to achieve the goal is to FIND SOLUTIONS to Problems. Have critical review of the magnitude of the problem, identify the lacunae, set priorities, define realistic and feasible objectives, methods of achievement and the resources involved and the timeline, with in built evaluation and feedback for the steps defined, implemented and monitored at regular intervals with reporting, to all those concerned authorities for uniformity of information dissemination for appropriate action.

With more and more awareness, availability and reducing cost electronic media, time is not far when the medical profession which has already started with Distance Education through Indira National Gandhi Open University (IGNOU) in some Post-graduate Diploma Courses in Geriatric, Rural Surgery, etc. many more shall be developed as to extend the services for the benefit of those who would like to practice in the villages, without regular post graduation in the surgical field.

Computers being compulsory at school level shall make Computer Aided Instruction and Computer Aided Learning still more popular and commonly used method. Looking forward to the E-mail and Internet facilities, which help in faster communication and latest even, unpublished work to be shared between interested (few at the moment) to large sections of the professionals in a cost effective manner, through the government machinery.

Attributes for Determining Effectiveness of Health For All By 2000 AD

- **Medical Education, Health Education, Community Participation and Health Care Services and Management Direction for Administration**
  Making the functionaries and consumers understand what their role is and what each is meant to be doing, through community involvement.
- **Relevant activities**
  Planning and communicating the needs for which intended, with timely and appropriate implementation in the planned areas on priority basis.
- **Appropriate approaches**
  About achieving the objectives in the best possible way, with commitment from the functionaries and health care receivers.
- **Achievement of intended results**
  listing and communicating with the apprehended failures and challenges in achieving the goals
- **Acceptance**
  of the services provided and judgement of satisfaction, to the health planners, administrators, health care providers and research groups
- **Impacts**
  positive or negative, occurring as unintended effects to be eliminated or minimised
- **Cost and financial management**
  of demand and service provided proportional without disparity and making it cost-effective
- **Working environment**
  promote commitment, initiative, human resource development, through safety and security of health and services
- **Protection of Assets**
  especially the key resources of suppliers and receivers
- **Monitoring, Evaluating, Feedback & Reporting timely**
  all activities and the results by each and everyone involved in the team

Continuing Medical Education

The Need

Facilities for medical education with the introduction of formal training in educational science and technology of the teacher and the taught, have vastly expanded particularly in the third decade after the independence of the country. The increasing population and increase of life expectancy has put lot of demands on the medical profession and health care system. This has resulted in increase of number of seats in a medical college as well as mushrooming of Medical colleges of the government as well as the private ones. The quality of medical education and health care delivery also has kept pace with the advances in knowledge and innovations in technology, as well as their application. The government of India has started National Teacher Training Centres for the in-service training of Teachers of Health Professionals in Educational Science Technology.

Besides, these centres are for training doctors in Hospital Administration and Health Management. There were initially only four such National Teacher Training Centres(NTTC) in India (JIPMER, Pondicherry; PGI, Chandigarh; BHU, Varanasi & MAMC, N. Delhi). The centre at Maulana Azad Medical College (MAMC), New Delhi is completing a decade this August'97. Of date other Medical Colleges have also started their own Medical Education Units as recommended by MCI.

Forgiveness is sought by the author for any unintentional or typographical errors in the presentation.

No man is so tall that he never need stretch and
none so small that he never need stoop
-DanishProverb

Of Roots and Wings

M.K. Sharma[1]

Introduction

Effective initiation of the young pupils into the healthy traditions of a society, through planned activities at home and in school, provides them with firm moorings into their own cultural heritage, which in turn help them to build up a stable personality. Secondly, healthy exposure to diverse experience, in and outside the formal education system, of the fast-moving modern world provides them with opportunities to examine carefully, choose judiciously, and assimilate harmoniously into their lives new components resulting from change and progress all around them. It is only a right mix of well-chosen, time-tested, indispensable cultural elements from the past and well-picked elements from the bewildering complexity of new things and ideas that are constantly being thrust upon us by ever growing science and technology that can equip the recipients of education with the requisite ability to adjust successfully to the ever changing world of the future. Whether it is knowledge, skills or attitudes, removal or modification of the old at a fast rate becomes essential in order to make room for the introduction of the new. While eliminating the old, one should be careful not to throw away the baby with the bath-water, and while accepting the new, one must be careful not to invite things that are altogether indigestible and unassimilable. This process of choosing and discarding is anything but simple, particularly when new things are appearing on the scene in an ever-accelerated pace. It is indeed a great challenge before the planners, managers and administrators of education to control the *direction* and *rate* of change in education for the next millennium. This paper discusses a few relevant points in this regard.

Development of Knowledge

Scientists believe that we have been living on this planet for more than a million years. It is only during the last one per cent (i.e. 10,000 years) of this time that man has learnt *agriculture*. His survival during the earlier ninety per cent of this long period depended entirely on his ability to hunt wild animals and gather naturally growing plant-food. Obviously, he was a wanderer and his total population was strictly controlled by the availability of food in the forest wherein he dwelt. But, once he learned to produce plants from their seeds, he gave up his nomadic life-style and began to settle permanently in fertile lands along the banks of the large river systems of the world. This marked the beginning of human civilisation. Man learned to produce and control fire, learned to domesticate a wide variety of wild animals, and developed language for communication. This agricultural revolution of 10,000 years ago is generally termed as the First Wave of transforming change in human history. Then came the Second Wave, the industrial revolution, about 300 years ago. Man learned to get work done by machine and electricity. This brought about major technological and social changes. Now, the world is at the beginning of a Third Wave of human change (Toffler, 1980).

In the First Wave or agricultural society, *land* was the most important capital of all. In the Second wave or industrial society, the most critically needed capital became the *machines* and *materials* for industrial production. In the present Third Wave of *information and Communication technology,* the most important capital is *knowledge*. Unlike land and machines, knowledge can be used by many different users at the same time. Secondly, knowledge is inexhaustible, in fact, use of knowledge is likely to produce still more knowledge. Such being the situation, giving our student inadequate, irrelevant and obsolete knowledge through our universities and other agencies of higher learning will tantamount to clipping the wings of young birds ready to fly. The managers of higher learning must appreciate that they do not have any moral right to keep our students *bonsai*, the sooner they learn this the better for everybody. They can ill-afford to ignore the inescapable truth that the present recipients of their education

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will in future have to embroil themselves in fiercely competitive global struggle for important positions in every field of human endeavour.

Knowledge is Power

In any sphere of human activity, knowledge, as the English philosopher Francis Bacon (1561-1626) advised us, is power. Here, of course, the world *knowledge* has to be accepted in its widest connotation -- it includes information, skills and attitudes. One who has them is any day more powerful than another without them. Power comes also from *violence* and *wealth*. Violence can sometimes be actual and sometimes it can be only the threat of its use. The threat of violence also lurks behind the enforcement of law. Violence as a tool of power has its weaknesses -- it can be used only to punish and not to reward, the victim is likely to strike back at his first opportunity, it produces resistance and finally, there is a limit to its application (going beyond the limit may destroy what is intended to be captured or defended). Comparatively, wealth is a better tool; a fat bundle of currency notes can bring compliance, it is flexible -- can be used both as a reward and punishment. However, money cannot buy everything and secondly, at some point, even the richest locker empties out. By contrast to violence and wealth, knowledge is inherently different. Unlike muscle or money, knowledge itself does not get used up. On the contrary, use of knowledge may even produce still more knowledge. Muscle and money are the property of the strong and the rich, whereas knowledge can be acquired by the weak and the poor as well. Because of such qualitative differences, Alvin Toffler (1991, p. 15) describes violence as low-quality power, wealth as medium-quality power and knowledge as the highest-quality power. All institutions of higher learning should try their utmost to equip every student with this highest -- quality power.

A Few Versus Many

As compared to the teeming millions inhabiting this planet, it is only a handful of scientists that discover new truths about everything under the suN and beyond. And again it is only a handful of technologists who apply these newly obtained truths to design new tools and techniques that will achieve many of our societal objectives. Science is free, objective, neutral and public, whereas technology is local, private and expensive. Science (S) leads to Technology (T) and technology, in turn, leads to Production (P). It is this STP spiral that builds up a country's industrial base, increases the standard of living and confers political and economic domination and technological imperialism. Exponential growth in the knowledge connected with science and technology and subsequent production of new things in large scale and their distribution all over the world has a tremendous impact on man's attitude towards diverse facets of his life. Though handful in number, these scientists and technologists change, wittingly or unwittingly, the life-style of almost the whole of mankind. Take the case of nuclear energy, space travel, communication satellite, television, computer, biotechnology -- you will see how all these have radically changed our personal and public life. Whether we like it or not, whether we are mentally and psychologically prepared to accept it or not, changes brought about by science and technology -- more so to come in future -- are inevitable and unavoidable. There is all around us a "roaring current of changes, a current so powerful today that it overturns institutions, shifts our values, and shrivels our roots", and if the education system in its broad sense fails to provide the growing generation with proper moorings, we are "doomed to massive adaptational breakdown" (Toffler 1970, p. 11). In order to prevent such a catastrophe from occurring, the education system must quickly learn to wisely control the rate of change in our personal and social life.

Curriculum Change for Survival

For meaningful survival in the 21st century, adequate preparations in terms of change of curriculum in the educational institutions is indespensable. Unfortunately, however, many of our institutions of higher learning are still zealously preserving archaic, outdated and outmoded curriculum. In matters of bringing about change and keeping abreast of the modern developments, our universities "are slow as bodies of intellectuals for there is a build-in resistance to change; they like to preserve traditions, missions and ideas for years and years" (Ghosh, 1996, p. 4). To survive in the modern world,

this attitude must undergo radical change. A clear, prevision of the likely threats and opportunities in the future is a must. Only a careful future-scanning -- futurology as it is called -- can supply such valuable knowledge to work as base for constant curriculum change. The present society "is no longer static society -- it is a dynamic, vibrant, pulsating socio-economic system changing every minute threatening to throw you off our balance if you are not prepared to anticipate the *tomorrow*" (Meenakshi, 1996, p. 16). Depending on the requirements of a course, some elements of futurology can perhaps be fruitfully incroporated into almost all subjects at the post-graduate level. "In a fast moving world and an explosion of knowledge in every field, and in the wake of information and communication technology, the universities have to show great dynamism" (Dubhashi, 1997, p. 4).

Globalisation of Education

The world now clearly recognises that no country can be totally self-sufficient, no nation can produce all the goods and services needed for development. Globalisation of economy seems to be the right answer As education is integrally related to all developmental processes of a country, so is *globalisation of education* to *globalisation of economy*. The concept of globalisation is based on global competition; "son of the soil" kind of sympathy will simply not prevail in such a situation; what will prevail is that "the race is always for the swift". "Open the pages of international journals and you find advertisements of senior positions on global basis" (Mukhopadhyay 1997, p. 8). The Darwinian principle of "survival of the fittest" seems ultimately to operate in the global arena. If the weaker nations do not wake up in time and face the challenge squarely, they will eventually get subsumed into the stronger ones. In many advanced countries of the world, Technical Education has already gone global. "Universities in the developed world are aggressively marketing their degrees in the developing world. Unfortunately, the universities in the developing world have remained passive" (Mitras 1996, p. 7). Interdependence of countries have already set in in a big way. Now, "it is not unusual or difficult to find major British institutions being headed by Canadian scholars or US institutions by a scholar from the middle east and so on: (Mukhopadhyay, 1997, p. 8). It is a pity that "notwithstanding the rich background of our culture and tradition, which very few nations in the world can boast of, our vision of building a modern prosperous nation with social harmony and equitable distribution of wealth, without forsaking our ancient cultural traditions remain still unrealised" (Bhide 1997, p. 16). In order to achieve this, there should be a healthy nexus between institutions of higher learning on one hand and the industries on the other. For this, both should resort to "modernisation, upgradation of technology and the competence of the work force, adopting modern management techniques, increasing efficiency, and improving quality and productivity" (Qasim 1996, p. 15). In order to strike a balance between technological development and character formation, "technological education must necessarily be associated with a strong component of social and moral education" (Bhide 1997, p. 15). To develop the quality of students in our educational institutions, there must be strict accountability -- the students must be accountable to teachers, teachers must be accountable to managements and managements must be accountable to policy framers at the highest level. Educationally advanced countries of the world "have developed a system (of education) in which dishonest persons cannot survive while in our system honest persons who want to do learning, teaching and research with all honesty find it a had struggle to survive" (Kapur 1996, p. 4). Globalisation, which appears inevitable, demands quick change in this regard.

Conclusion

Despite globalisation of economy, globalisation of education, globalisation of art, globalisation of sports, and so on, the world can never be expected to be uniform throughout. A lot of diversity in terms of all that can be lumped together under the composite world *culture*, will always remain. The ever-increasing problem in future will be to preserve identity in terms of one's own cultural heritage and at the same time, to derive maximum benefit by assimilating new things that are coming to our life at an ever-accelerated pace. When confronted with change, man generally shows different shades of attitude ranging on a spectrum, the two ends of which can be termed neo-philia and neo-phobis. Neo-philia is love and attraction for anything that is new, whereas neo-phobia means fear and repulsion for the new. Excessive neo-philia may lead to wholesale rejection of all that is old and traditional, whereas too much of neo-

phobia may tend to wholesale rejection of all that is new and progressive. Again, excessive neo-philia has a tendency to make people rootless by providing them with tempting wings to fly high in the sky of novelty and progress, whereas excessive neo-phobia has the opposite tendency to keep people bound to their old traditions by making them impervious to new thoughts and ideas capable of leading them to change and progress. Whether it is at the individual, local, regional, or national level, in order to fit in the fast-changing modern world, one needs both roots and wings. It is the education system which must take on itself the great responsibility, on a continuous basis, of identifying the most essential and relevant components that are necessary for healthy growth and development of children, and of blending these components together in the right proportion with a view to ensure that the recipients of education turn out to be people with roots in their own culture and traditions and strong wings to fly high and explore new things for wholesome assimilation with the old.

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Educating the Educators of Early Childhood : Preparing for the 21st Century

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The coming century which is synonymous with the Information Age is going to impose new kinds of pressures on future educators, particularly those in developing countries like India. The prevailing view is that all occupations will require higher education. The problem is liable to become particularly acute because the trend towards globalization will introduce into every society many diverse cultures with very different academic capabilities, large number of them may even be first generation learners with disadvantaged backgrounds. Yet they are likely to be politically conscious, demanding special preferences to compensate whatever handicaps they might have. At the same time, international competitive pressures will make it imperative to lay stress on merit in all walks of life requiring a paradigm of change in educational standards at all levels.

Children of today are the citizens of tomorrow. Knowledge attitudes, prejudices and emotional responses to issues concerning different people all over the world which are imbibed in educational settings by children will alter their outlook and behaviour in future years. As we march towards the 21st Century, it is with growing awareness that we are moving towards a world which will be very different from the one we have lived in. With the changing world scenario, appropriate measures must be adopted in a hurry to equip teachers to educate our future citizens to face a society beset with innumerable problems. Thus issues that will confront the teachers in preparing the citizens of the 21st Century will be significantly different than those that required attention in the yester years. While mastery over the three Rs' was the sole priority of teachers of early childhood education in the recent past, today, with growing conflicts all over the world, several other issues need to be given their due importance and poor nations which is growing larger every year, pillage of the environment pointing towards greater awareness and inappropriate development of different areas.

Facing the Challenges of the Future

In the planning for the great adventure of tomorrow we must remember that the journey begins with the first steps. Bridges must be built between now and the future. What is teaching? Today apart from knowledge and, content, the additional factors combine in teaching are skill, understanding imagination and resilence. The explosion in knowledge and information has exposed the dangers of the traditional teacher education program. Teachers must know the content of education and processes of learning, know a little about what children learn and what they should be taught at a given age and how much is feasible within a given time frame. Training strategies needed for today's teacher-education must include some information besides encouraging children to learn for themselves.

Against this kind of background we should also know that new technology available for use in this context includes the micro-computers, forms of teletext, the interactive video disc, direct broadcasting by satellite and cable television. This technology changes the position of Teacher as the single authoritative initiator of, or respondent to, inquiry. A teacher is bound to be compared with a Program Presenter on T.V. and has also to play roles like a social worker, Administrator, Public Relations Officer and several others. In short, teaching has become a complex job.

Professional competence is intelligent thought translated into intelligent action. For the 21st Century one must sharpen proficiency of teachers. Effective Teachers help pupils develop lively inquiring minds, acquire understanding, knowledge and skills, develop personal moral values, and appreciate human endeavour and aspirations. They have sensitive understanding of society.

It falls to the educator to make the difficult decisions that will determine the moral direction of the world as we will have it be. While we may feel unequal to the task and may fail in the process, the effort along is sufficient and will have an impact. The need for educators with a moral perspective that

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will challenge the technocratic determinism of the present is made clear by models of individual contributions. There are models in history of those who have been moved to moral action that focused on concern for the values of each creation such as Mahatma Gandhi, Martin Luther King Jr., Abraham Lincoln, Bishop Desmond Tutu and Mother Teresa. Their work has been specific but their moral vision provided a beacon to the unwary.

Educating the Teachers of Tomorrow

For educating good citizens of tomorrow, we have to start with early childhood years today. To meet this end, we must first educate teachers as the teacher is undoubtedly the most important individual in the educational enterprise. It is the teacher who will be influencing and guiding the minds of our young children. Several studies have shown that children's development and learning are influenced more by the Teacher than by the curriculum, content or educational methodology. Also, the teacher's role is more crucial in determining what happens in a classroom than in the educational model used. To do justice to her role, the early childhood teacher should have physical stamina, one mindedness and understanding of human development, respect for individual personality as well as the imbued with a scientific spirit.

Teaching is a matter of life and death. The tragedy is that most people do not recognize this vital nature of teaching. Doctors and lawyers have neither more nor less to do with life and death than do teachers. In fact, teachers are ethically even more accountable than doctors as on their influence and directions depend the mental health of learners - their attitudes, opinions, prejudices and the whole personality. Indeed, if we do not prepare good teachers, we are not going to have either good lawyers or doctors nor good engineers or scientists. Teaching, therefore, must be entrusted not only to the most thoroughly prepared professional, but more importantly to caring, responsible and just men and women imbued with a vision to review humanity. This is even more true about teachers dealing with children in the age groups of three to six years, in early childhood education classes.

As we move towards the dawn of the 21st Century, the challenges that face the teachers are growing more innumerable in number and complexity. This has direct implications on the training and education of future teachers. Thus the role of teacher education in its role of social change and development cannot be underestimated. Governments may find their efforts to institute change in the social system in vain unless they work hand in hand with those who are most capable of inspiring national and human aspiration in the youth - the teachers.

In view of this enormous responsibility, the training and education of tomorrow's teachers should be relevant to global realities. It is due to this need for relevance that teacher education cannot remain neutral. We need to train and educate teachers who will focus on issues especially relevant in third world countries. This is not mere idealism, for the reality is that two thirds of the world's population is "under-developed" where the vast majority live in a state of violence exploitation and oppression. The Third World population consists of a large majority of today's children who are people of tomorrow, who are denied of genuine development of peace. And for as long as we the teachers and teacher educators fail in bringing about this development and peace to the world's deprived, then we are far from succeeding in our profession and our mission.

Education for Development

The concept of development has now evolved a new definition - one that challenges the conventional view equating development with higher production, income and resources. Development is liberation - liberation from poverty, hunger, exploitation, oppression and from foreign intervention, whether cultural, political or economic.

The Gandhian dictum that the "earth provides enough to satisfy every man's greed" is as true today as it was many many years back.

Apart from economic problems, the 21st Century is likely to throw up certain different social problems too. It is now an accepted fact that the world will soon be a global village, that no nation can remain an island and shall have to become, without option, an integral part of the world at large. Further the cultural invasions will be unavoidable, so much so that it will become increasingly impracticable to

preserve and protect one's traditions. In consequence, though, the world is going to become a village, cultural tensions are more likely to increase than decrease. Thus next door neighbours may become enemies and distant places become friendly. Finally - an issue that assures significant proportions - the question of environment and its counterpart is that of sustained development.

In the 21st Century all countries will have to prepare themselves to face major developmental shifts e.g.; predominantly agricultural nations like India and China will have to move to information technologies in the future while those immersed in development will have to look towards conservation of the environment leading towards sustainable development. These will naturally pose new kinds of problems before educators, they will have to educate not only the youth but the entire population, the education they offer will have to prepare one and all to become and remain, socially responsible citizens of the world and at the same time good neighbours too. Also people will have to be trained to prosper in the environment which is ever changing in a kaleidoscopic fashion.

Implications of Early Childhood Education

Unfortunately, in spite of the awareness that early childhood education obviously has on later learning abilities and behaviour pattern, pre-primary education in most countries continues to be planned in an unscientific, individualistic and unsystematic manner. Early Childhood Education programs are not even considered as part of the general "educational package" of primary schools. In India, pre-primary education is confined mostly to private enterprise, which is a little more organized in the urban areas. The vast majority of children in the rural areas are confined to only a few government institutions with inadequate facilities and unattractive settings. Private sector holds the monopoly in this very important area of education leading naturally to economic exploitation of the users.

The "Domino Effect" of Early Childhood Education on all subsequent schooling can not and must not be underestimated. The new type of clients who enter the primary program probably will create program changes and mutations that will ripple upwards through the middle school years into the secondary school. The extent of the effect of the "upward ripple" on post-secondary education is more difficult to forecast, but, at least with respect to Teacher Education it seems likely to be substantial.

Unequal opportunities at the earliest stages of life themselves create disabilities in individuals which deny them access of further opportunities. With every year, the gap between the privileged and others widens, so that the disadvantaged child who has not had the benefit of a healthy and stimulating environment in his earliest years is unable to develop himself sufficiently even to take advantage of opportunities which may cross his path later. The effects of a deprived or abundant environment are most telling at this stage and investment in human resource development at a later stage may well prove a waste if the foundations have been neglected. The expanded function of education in India when it is directly linked to the teacher's own knowledge and understanding.

Type of Education Needed to Prepare for the 21st Century

We need to analyze the inadequacies, irrelevancies and flaws of our present educational directions, concerns and pedagogy and at the same time offer creative alternatives for consideration in shaping a new educational paradigm. In order to focus on what education will look like in the 21st Century, we need to look at the following issues now :

1. Education needs to issue a "liberating consciousness" so that we can be freed from thoughts, values, systems and structures that hinder authentic development. The educational system that we develop has to break the "culture of passivity" in underdeveloped countries and diffuse the elite's monopoly of knowledge and power. This kind of education will empower the weak and disadvantaged and enable them to transcend their deprivations. At the same time it will enlighten the rich, the powerful and the privileged to voluntarily participate in transforming our present norms and systems into more fast, equitable and humane relationships.
2. Education must not alienate learners from their roots. Many educational systems have become a very powerful alienating influence in rural areas. Education has not trained the youth to go back and serve their people but has, instead, created legions of "educated unemployed", especially in poor III World Countries where energetic and idealistic youth could very well have been taught to bring about

genuine development in their communities. It is important to reintegrate education into an appropriate concept of community. Further more, education must teach us to appreciate our indigenous culture, enable us to discover and develop liberating elements in it which can help create a more fully human life.

3. Education must attune us to diverse processes at work in our planet and teach us the meaning of responsible consumption and caring for the earth. Unless we learn a new how to appreciate, share and nurture the earth's life giving resources and processes, we will not be able to arrest the earth's plunge into extinction.
4. Education is "human conversation with life". The subject matter must revolve around the needs, problems, pains, joys, dreams and hopes of people and the world a huge classroom where life is a continuing process of education. Thus curriculum concerns need to be more than mere information loading, intellectual understanding, problem solving or culture transfer. Teaching and learning must consider, both in content and process, the dynamic relationships between and among peoples and nations, the correctness and relatedness of all human activities. This deep sense of human communion is possible only in a non-violent, affirming and nurturing environment.
5. Education must teach a "new value orientation" to motivate and inspire the new generation in their understanding of and reverence for life. Among other things, education must encourage the values of compassion - the capacity to feel for others, to feel what it is like to grow under different or difficult circumstances, and to appreciate the human person irrespective of sex, colour, creed or social status. Education must also cultivate the virtue of humility, nor subservience or passivity, but the capacity to recognize and accept the limits of human striving, to listen to the powerless, the voiceless, the unschooled and the aged.

Educating the Early Childhood Teacher

Issues of peace and conflict inescapably affect unvarying ways, our daily life and the consciousness of children in schools, including their hopes, aspirations and dreams. Many young people today feel a sense of hopelessness, powerlessness and even despair about the future. This is not confined to III World Countries but is apparent in developed countries also. To avoid gloom and a sense of doom, teachers need to be hopeful about the future. According to Richar Falk, Professor of International Law at Princeton University,

"Genuine hope must rest upon an understanding of present problems of the planet and a sense of confidence about how to deal with them."

As stated earlier, for educating good citizens of tomorrow, we have to start with early childhood years today. To meet this end, we must first educate teachers who will be influencing and guiding the minds of our young children. Some of the important issues that will need greater attention are as follows :

a) Developing values in teacher education of early childhood by the creation of critical awareness, examining of democratic ideals, education for peace and liberation and commitment to justice and defense of poor.
b) Refocus the curriculum to focus on the teacher as a development agent and peace worker, understanding the psyche of the deprived and disadvantaged and developing techniques of teaching learning, cultivating knowledge about social problems through non-formal and other modes of community participation and linking school with life and community.
c) meeting the challenges of an ever-growing knowledge of science and technology.
d) Educating for conserving the environment and fostering pride in ones own culture.
e) Humanizing education to include a consciousness of world.

Educating teachers for the 21st Century thus calls for a fundamental change in our consciousness, views, systems - in fact a change in the entire educational network. It also requires that the teacher sees herself not as a prime source of knowledge, but as an organizer of learning and learning experiences.

Indeed, educating the early childhood teacher for the coming century is a challenge that lays emphasis on peace, liberation of the human being and a call to revive humanity.

"History is not closed. The future remains open and depends upon our imagination and bold initiatives".

The defined challenge of education in the 21st Century is to make education an exercise in quality, with quantity matched to what the economy can absorb in each and every discipline; to make education a fast response process which changes in technology and further provide the full range of skills combined with commitment and determination to achieve the goals that a modern economy needs. Further, in spite of such a materialistic approach, the education system should ensure there is always a corner where people like you and I can play and dream and think esoteric ideas.

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Education University

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- The fiftieth year of independence of India is the year of Assessment of the development/gain during these fifty years.
- The progress in education is as considerable as in other fields of progress of nation, yet it is not as it was expected.
  - The number of illiterate persons is increased.
  - The quality of education in general is not up to the standard.
  - The training of teachers at every stage is not adequate.
  - Lack of sufficient in-service education of those who are in service.
  - The syllabus is not revised automatically and quickly.
  - The examination system is defective.
  - There is a wide-gap in the education of boys and girls'. Urban and rural children, state to state, different deprived communities etc.
  - There is no clear ideology in personnel in the education department.
  - The researches in academic area is very poor and not effective or applicable to the education.
  - The sense and services of the para-education is not developed
  - There is total isolation between pre-primary and primary, primary and secondary, secondary and higher secondary education, and different university departments of education and education bodies like NCERT, NCTE, UGC.
  - There is no special provision for the training of personnel in training colleges, principals of different schools and management, University departments, department of education in Govt. and different statutory bodies in education.
  - The cultivation of scientific temper, culture and national objectives of education is not seen at the end of educational process.
  - The provision of money is not enough and it is distributed uneven in proportion within different stages.
  - The management of educational institution is not taken into consideration for every purpose.

Education University - An Innovative Approach

- To have the expected result from the education and to develop the nation all round, the co-ordination and well-planned education system is necessary for India.
- As there are universities like Agriculture University, Ayurvedic University, Technological University, there should be EDUCATION UNIVERSITY in every state. The development of syllabus and co-ordination of the different educational cadres and training of teachers will be the purview of Education University.
- The role of the Education Universities:
  - ⇒ Over and above role of present universities in general, Education University will/can play the following roles as the responsible media of improvement of educational standards in state as well as nation.
  - ⇒ Co-ordination and integration of Teacher Training Institutes (TTI) of pre-primary, primary, secondary and higher secondary education.
  - ⇒ Graded syllabus of TTI of pre-primary, primary, secondary and higher secondary teachers.
  - ⇒ Specialized courses for the college-teachers, who work in various TTIs.

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- ⇒ Implementation of admission criteria according to candidate's aptitude, knowledge, skill and interest.
- ⇒ Creation of objective oriented and committed structure of education on the basis of national and social needs.
- ⇒ Development of the para-education courses such as P.E. and Drawing teachers, laboratory assistant, librarian, extension service coordinator, teaching aid technician, rector of the hostel and the persons attached with education institutes. Such as school bus driver, lady receptionist, canteenwala, cook.
- ⇒ Development of specialized course for the teachers resource persons of Basic Education, Schedule Tribes, Adult Education, Social Education etc.
- ⇒ Contribution into the preparation of text-book, Hand-book for the teachers as well as work-book for pupils.
- ⇒ Co-operation in developing role of State Council of Education , Research and Training, Various Examination Board.
- ⇒ Finding out the solution of problems of teachers association and administration wing of education department.

The Objectives of Education University

- ⇒ To prepare the highly trained teachers who can lead in different stages of education.
- ⇒ To co-ordinate national goals with the structures of education and establish inter-relation among different stages of education.
- ⇒ To inculcate a sense of responsibilities towards teachers profession.
- ⇒ To keep the teacher abreast of the latest trends in the field of teachers teaching subject.
- ⇒ To form the syllabus to shape the professionally competent teachers, specially from the point of talent and knowledge.
- ⇒ To keep the teachers update in the teaching skills and methods for the different level of educational institutions.
- ⇒ To participate in shaping the educational policy for the state.
- ⇒ To cultivate international standard by keeping live rapport with different universities and research institutions.
- ⇒ To appreciate the dignified teachers as well as educational researcher and motivate the rest of the community.
- ⇒ To develop code of conduct for the teachers and pupils.
- ⇒ To promote researches on national objectives of education.
- ⇒ To establish integration among different stages and co-ordinate different syllabuses of TTI.

The Scope of Education Universities/Faculties of Education Universities

Though education is kept in concurrent list of Constitution of India, the major responsibility lies with state government. So the main area of Education University will delay with the problems of education only. For this purpose the following educational institutions will be the part of the education universities.

- ⇒ The institutions preparing teachers for pre-primary schools of the state
- ⇒ All the primary Training Colleges of the state
- ⇒ All the Secondary Teachers Training Colleges and Education Colleges, affiliated to different universities
- ⇒ The institutions training teachers of Basic Education, Adult Education, Social Education and related research institutions.
- ⇒ Education departments of all the universities of the state, and other prominent educational research institutions.

To have all these work done successfully education university will create the following faculties :

i) Faculty of pre-primary teachers education

ii) Faculty of primary teachers education
iii) Faculty of secondary teachers education
iv) Faculty of Scheduled Tribe and other Social education, teachers education.
v) Faculty of in-service education of teachers.

These faculties will carry on the relevant researches in co-operation of mutual faculty resource personnel.

School of Education - University Department of Education

The Education University's School of Education and other university departments will co-ordinate all the present department of education of various universities of the state. The functions of the school of education will be as follows:

- Organization of research on education and provide all types of help to those who conduct researches in education.
- Acquaintance of knowledge of latest research methodology from all over the world and its application in day to day researches.
- Organization of in-service education program for the teachers of education colleges to acquaint the new syllabus and methodology on the basis of the latest research.
- Introduction of new certificate courses for the senior officers in various educational institutions such as Educational Administration, Educational Finance, Educational Engineering, Educational Planning, Educational Supervision, Guidance and Supervision, Research and Development etc.
- Preparation of resource personnel for various educational programs in accordance with NCTE requirement.

Educational Polytechnic

To run the educational institutions very efficiently, the institutions require the assistance of various types of personnel and para-educational persons. The Education University will have one polytechnic, where such assistant personnel and others will be trained for their job through short-time courses i.e. doctors, who provide medical inspections to school pupils or the rectors who run the hostels for students of different age, course, caste, academic and economical level.

In the same way the coaches for the different games, NCC officers, school bus drivers, cook of the mess or the hostel and canteen require training to work for educational institutions. The polytechnic will run some diploma courses for laboratory assistant, teaching aid operator, physical instructor, drawing teacher, clerical staff members, academic co-ordinator.

This polytechnic is also expected to run in-service programs as and when educational policy is changed.

Conclusion

Though the points related to the academic staff, working style, syllabus and remuneration of the faculty members are not discussed herewith, the Education University itself will decide all the features in relation to their requirement.

Thus the concept of Education University will be the proper step towards the educational innovations and improvements. As far India is concerned the professional universities have proved their utility in the field of medicines, agriculture, technology etc., Education university is sure to fulfill the ambition of the Indian people. This university will find out the qualities as well as characteristics of the dignified teachers and then it will try to establish all these characteristics into the weak teachers through its in-service education programs. The student-teachers of education colleges will be also benefited. Thus the nation will be led towards all round progress through educational development.

Teacher Education : An Emerging Field of Research

Asha Sharma[1]

Introduction

The teacher occupies a pivotal position in any programme of educational reconstruction, without his/her active help and effective participation.no educational reform can be successfully accomplished. Once Oad (1976) rightly remarked :

"Everything depends upon the teacher."

Now there is a demand not only for more teachers but for competent teachers at all levels. This call is related to the professional preparation of teachers Hence the present teacher education practices are now challenged and the role of the teacher in a changing society is re-assessed from the scientific viewpoint.

Passi (1997, p.1) has confined the definition and meaning of teacher education as given in the Act of National Council for Teacher Education (NCTE 1993) :

> *"Teacher Education" means programs of education, research or training of persons for equipping them to teach at pre-primary, primary, secondary and senior secondary stages in schools, and includes non-formal education, part-time education, adult education and correspondence education.*

This definition covers as many as seven inter-related areas of education and teacher education. It also refers to three approaches of teacher preparation, such as, professional programmes of education, training, and research leading to the preparation of teachers of pre-school, formal schooling, non-formal school, open education, adult education, and so on. Thus the concept of teacher education is broad enough to prompt and to enable teachers to promote individual development and to inspire the students to a value system which may sustain a modern, democratic and progressive society.

Teacher Education in India : The Present Scenario

The subject of teacher education is not only highly controversial but also exceedingly complicated. The rigid and stereo-type system of teacher training suffers from many shortcomings. When one casts his glance on the Indian teacher education scene, one is at once reminded of several constraints and problems of the Indian teacher education system. The teacher education institutions in India suffer from all sorts of shortage of men and materials, curricular shortcomings, administrative fiascos, moral contradictions, poverty of standards, efficiency and decency and lack of forward thrust. In the name of innovations and experimentation, a lot of wastage perhaps has been done and as a vale corruption and inefficiency have thrived. Wider accessibility to quality education is considered essential for satisfactory development. This has necessitated improvements in the system of teacher education so as to prepare teachers of quality.

The existing system of teacher education is complex and diverse in nature. There are of now as many as 5.9 lakh Primary Schools, 1.7 lakh Elementary Schools and 95 thousand High/Higher Secondary Schools in the country. As against this, there are 1221 teacher training institutions for preparing elementary teachers and 633 Colleges of Education/University departments preparing teachers for Secondary and Higher Secondary schools About 2000 teacher education institutions located all over the country. About 2500 teacher educators belong to teacher education at all academic, vocational and co-curricular areas. About 50 lakh teachers are teaching in 8 lakh schools Out of about 4.4 million teachers in the country nearly 2.9 million are teaching at the primary/elementary level (Selected Educational Statistics 1995-96, MHRD, Govt. of India, New Delhi). A sizeable number of them are untrained or poorly trained. It is estimated that not more than 40 per cent of the teachers are provided in-service

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teacher education in an organised manner. Regarding non-formal education, there is no systematic strategy for preparing effective teachers.

Various commissions, committees and organizations appointed by the central and the state governments in recent decades have all emphasized the need for quality of teacher education suited to the needs of the educational system – both formal as well as non-formal. However, there is a feeling that all is not well with teacher education.

Considering the need of quality and improvement of teacher education, a National Council for Teacher Education (NCTE) came into existence vide Act No. 73 of 1993 of Parliament. The NCTE started functioning as a statutory body from August 1995. As part of its responsibility, NCTE has developed norms for teacher education programmes at secondary, elementary and pre-primary stages. These norms are milestones in ensuring qualitative improvement in teacher education.

Teacher Education : Some Emerging Areas of Research

It is tomorrow's necessity to make teacher education functional to meet the challenges. It can be done through well planned and effective pre-service and in-service training programmes. Teacher education is to be viewed as a system of continuous, lively, interactive opportunities for learning, exchange of ideas and views, innovations, and experimentation in the context of present realities and to meet the demands of 21st century.

No doubt, various types of research on teacher education have been conducted in universities, national level institutions and other establishments and they have shown revealing and interesting results but their utility for the teacher education or the classroom teacher remains rather low. Majority of the researches are undertaken to obtain a degree and the focus on its possible utility and relevance gets misplaced. One of the major inputs towards enhancing the quality of teaching and learning in schools as well as the teacher training institutions would be the extent to which research outputs and the outcomes of innovations are utilized by the system.

Considering the new vision education for all (EFA) and the perspective of emerging challenges of teacher education, there is further need of intensive studies and extensive research on teacher education and related themes. Some new emerging areas have received attention whereas serious thought has not been given to many significant and meaningful aspects :

1. Teacher is the focal point is only highlighted in policy proclamation, but ignored in implementation. It is true that the decision makers also ignore him in actual policy formulations and final decision making. Accountability and responsive code of conduct are emerging. Rajput (1996, p. 19) has presented the clear picture of teachers and teacher education in India in these words "..... The professional status of teachers is considered low vis a vis other professionals. Teacher education has not yet distinctly established the need for its essentiality as is the case for professions like low, medicine and engineering. People need to be convinced of the inviability of teacher training for good education." It is urgently necessary that the gaps between functionality and set targets should be pointed out. Research or educational policies with respect of teacher education will be useful to finalise policy decisions in various aspects of teacher education programmes and in the professional upgradation of teachers. This will also generate different issues for further research.
2. Various commissions and committees on education enumerated goals for teacher education in different sets of circumstances. The MHRD, the U.G.C., the NCTE, the NCERT, the ICSSR, the SCERT's and many more such organisations are intending to play their role for improving teacher education. They have been issuing guidelines from time to time for maintaining standards. Unfortunately, the results are not very heartening. This is one important emerging issue which requires immediate research.
3. The teachers of 21st century shall obviously face the consequences of technological challenges and communication revolution. The teachers shall have to develop an entirely different attitude towards the understanding of the changes and internalising their potential utility. Towards this, our strategy has to be developed which has to be intensive as well as extensive. For this purpose, there is need to study and explore the teachers's role expectations, the relationship between the individual teacher's role expectation and the social responsibilities of the teacher, the relationship between the teacher's concept of his role and his performance as observed by other members of the society. Such type of

research will help in developing new models of teacher education and trying them for training teachers of the new social order.

4. The reliability and predictive validity of admission procedures are doubtful. But many a time these admission tests are not adequately validated measuring teaching aptitude, social sensitivity, communication skills, desired personality traits should be considered for enhancing the validity of these tests. The admission tests of prospective teachers should be re-assessed from the scientific view point. This is an emerging field of high potentiality and deserves a priority.
5. There is very little research available in the area of curriculum development and transaction in teacher education. The trend of research work done in the area of curriculum context reveals that this has been one of the most neglected areas in teachers education. The work that has been done is haphazard and ill-conceived, unconnected with the real problems of teacher education. The entire curriculum, in parts and whole, and its effect on teacher behaviour and teaching situation need to be investigated and this is an emerging field of research and deserves a priority.
6. The measurement of good teaching skill remains complex and unclear. Even after four surveys, teaching theory in the Indian context has not been thought of. Of course, this may be partially because of definition, design and instrumentation. Therefore, teaching activities and styles and exploring areas with regard to school subjects are effective at different levels of education.
7. The present ritual of practice teaching needs to be examined seriously. The practising school is a vital component for imparting training in practical teaching skills, studies on the determinants of effective cooperation between training institutions and practising schools are called for. Further process based research is needed in this set of context variables. Only this type of research will contribute towards improving the student-teaching effectiveness through meaningful interaction between the two sets of institutions.
8. Various types of studies and researches have been conducted on micro-teaching, classroom interaction analysis, simulated teaching and different models for teacher education. All this shows that researches in teacher education have been following a trend of larger and comprehensive coverage of objectives. This is a welcome trend, but the severe criticism that is levelled against this type of studies is that they have made teacher education simply mechanical process, rather than a process implying training, of a humane teacher. After all, the teacher's function is not limited to the four walls of the classroom. He is emotionally attached to the learner as well as the subject he teaches. Because of this attachment and the skills required, he develops an individual 'style of teaching'. Researchers must direct their studies towards probing such styles of teaching and communication abilities which may differ from subject to subject and situation to situation in different teachers.
9. Educational technology as a means of improving effectiveness of teacher education is an area which requires immediate research. The traditional lecture method has lost its relevance as it has become outmoded and one dimensional. There are inherent merits of using instructional media in teaching. It saves the teachers time and enhances the efficiency of instruction. Teaching aids introduce activity and increase participation and are thus a valuable asset to teachers. The challenge for the future researcher, therefore, is to conduct research on the educational scope of mass media. Conducting research on different methods of teaching and the opinions of teachers and students, known with regard to effective methods can be sent to Educational Media Research Centres (EMRCs) and Audio-Visual Research Centres (AVRCs) so that tested and effective methods for evaluation through mass media can be used.
10. The major problem that has been troubling the educationists is the weightage to be fixed for different theory and practical aspects of courses at B.Ed. level. There is need to search the alternative models of evaluation regarding the teacher education programmes as a whole in terms of their effectiveness reflected in teacher effectiveness in the institutions. Where they secure teaching positions after the completion of their training.
11. Diversity in teacher education programmes is emerging. It is being realized that the boundaries of teacher training can go beyond the preparation of teachers for merely elementary and secondary schools. Teachers for work education, teachers for higher education, teachers for non-formal institutions, teachers for informal system of education, teachers for pre-school child care, teachers for special education of gifted children and children from groups with specific cultural, social and economic, teachers for adult education and teachers working in other professional sectors of education

also belong to the broad domain of teacher education. Surveys and studies also need to be encouraged. These may be exploratory or diagnostic in nature. The new initiatives and innovations need to be encouraged.

12 The National Council for Teacher Education (NCTE) has developed norms for teacher education programmes at secondary, elementary and pre-primary stages. Researches and surveys also need to be encouraged to examine and review periodically on the implementation of the norms, guidelines and standards laid down by the NCTE, and to suitably advise the recognised institutions.

Conclusion

In the end, it may be said that teacher education is an important emerging field of research, specially in the context of National Policy on Education, 1986 updated in 1992. To make the teacher professionally empowered and accountable, the teacher education shall have to be given a new orientation. Continuous researches, innovations and surveys must become an integral part of the training programmes of teacher training institutions irrespective of the stages for which it prepares its teachers. The NCTE has been given assistance to individuals and organisations for promoting researches in teacher education. Seminars have been organised to identify research topics on thrust areas. Research and development have been given considerable attention and have become a prominent feature of the educational scheme of today and tomorrow. Hopefully all these efforts may be able to search a proper shape of teacher education to meet the challenges of the present times and demands of the future through establishing an ideal identity of teachers and teacher education in the present Indian society.

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Evaluating Staff Development Programmes and their Impact on Teachers and in Colleges

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In post independence era, Government of India set up a good number of committees and commissions on education, viz University Education Commission (1948-49), Education Commission (1964-66), National Commission of Teachers-II (1985), Mehrotra Committee (1986) and Ramamurti Committee (1990). In 1986/92 National Policy on Education and its Programme of Action (POA) (1986/92) were adopted by the parliament. All these have laid stress on the need for professional preparation of teachers of higher education at the beginning of their tenure (general orientation) followed by continuing education (refresher course) for updating of knowledge and methodology of teaching. As a response, the scheme of Academic Staff Colleges was launched in 1987 by the University Grants Commission. This was a very systematic and organised attempt to improve the quality of higher education through providing support to human resources. In 1987, the scheme started with 41 programmes with 1345 participants and steadily increased to 3182 programmes with 1,02,955 participants who have availed themselves of such opportunities by the end of March, 1996.

The UGC sponsored in depth field study to ascertain the effectiveness of Staff Development Programmes (i.e. evaluating SDP's) and their impact on teachers and in colleges. Evaluation of Staff Development Programmes focuses on content, planning and implementation and resource persons. The impact study is based on perceived changes in attitudes and behavioural norms of teachers. It also presents the views of Principals and H.O.D.'s regarding the impact of the SDP's in improving the academic environment of colleges and on teachers.

The study has brought out many interesting issues to light. The responses of participants (240 teachers having undergone orientation programmes and 690 teachers having undergone subject refresher programmes) 430 teachers and 113 Principals and Heads of Departments of Colleges[*] show broad agreement regarding areas of strength and ideas on which ASCs have worked and their short comings and also for remedial actions for improvements. The picture that emerges leads to the conclusion that ASC's are moving in the right direction. However, certain areas need to be looked into and some steps need to be taken for vitalizing the Staff Development Programmes of ASCs to meet the present and future challenges to enhance the quality of higher education in India. This paper brings together the broad findings of the study and outline the directions for quantum increase in the quality of ASC programmes which are seen as the principle means for enhancing the quality of teachers and teaching besides the academic environment of the institutions/colleges. It is anticipated that these initiatives will strengthen existing practices and vitalize programmes of the ASC's.

Staff Development Dimensions, ASC Structure

Staff Development programmes envisage orientation programmes for teachers with less than 8 years of service experience and "Subject Refresher programmes" for teachers above 5 years experience. The Orientation involves four components/aspects. These are : (i) Component A-Sensitization in the larger context of education and the role of teachers in Society, (ii) Component B- Imparting professional skills for effective class room teaching, (iii) Component C - Subject upgradation, and (iv) Component D-awareness of techniques of institutional and departmental planning and development of self. The subject refresher courses attempt to update the base of knowledge, (i.e. latest trends of development in subject areas), subject specific methods of research and experimentation, and so on. They also attempt to expose the teachers with subject specific innovation in teaching, evaluation, curriculum design techniques, etc.

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[*] Most of the respondents were from the States of Rajasthan and Maharashtra and few from other states (Postal).

In addition to the above mentioned two dimensions of Staff Development, follow-up programmes for maintaining and enhancing the teacher competence and motivation (continuing professional education) and follow-up studies are also envisaged. The ASCs may also work as clearing house for dissemination of information. Thus the task before ASCs is complex and challenging.

To meet these multifarious dimension of ASCs the present organisational structure and physical facilities are far from satisfactory. In this regard Mathur have rightly stated- "Such Institutions will have a well-equipped hostel, guest, training and research complex. The faculty of the Staff College should consist of a number of Professors and Readers in the specialised disciplines, supported by some lecturer level person from amongst its recent alumni. Such a Staff College should also have a very well equipped library and access to very well equipped laboratories". These institutions should be built up on the lines of NIEPA and or ICS/PCS academics. The present study has demonstrated the crucial role of the Directors (Head of the ASC) for the success of the staff development programmes. Therefore, it is suggested that the appointment of Director should be made as per recommendation of the UGC Review Committee and the person should possess leadership qualities par excellence. It would be desirable to have some sort of permanency for the core staff, but Director may have be renewable for some more period on the basis of his/her performance. It is also suggested that greater autonomy within the frame work of host university and timely flow of funds from UGC are necessary for effective functioning of these colleges.

Content, Its Transaction And Impact

Orientation Course

The present study indicated that the contents based on UGC suggested curriculum of the ASCs, is acceptable to a great extent. This fact has been substantiated by other studies also: e.g. Pal 93, Passi and Pal 1996 and Rao and Palsane 1994. The present study indicate that there is a desired impact in developing positive and constructive attitudes towards the national goals and values i.e., broadening of vision (Table-1: pp 520-521), and fostering the development of personnel attributes (Table 2: pp. 522-523), improving professional skills, handling the students effectively, managing class rooms and acquiring needed attitude towards research (Table-3: page 524) and so on. The OC has succeeded to some extent in developing commitment in teachers towards the profession, society and institution. These ripples indicate that chosen content is effective to some extent and in right direction. However, it is the considered opinion of academics that periodic review should be undertaken by each college considering the local context. It is also suggested that each ASC may undertake study of additional needs of training as felt by the teachers (as carried out in the study Table -4: page 525) and design the course. There should neither be rigidity nor uniformity in the course among all the colleges and within college course to course also. According to the local context and need the content be changed, but the broad themes of OC must be retained. Keeping in view this background no attempt has been made here to prepare specific content/curriculum for OC. It is suggested that while designing the OC content it would be worthwhile to look into the group recommendations and suggestions mentioned in chapter 3 of report* . It is hoped that with the above suggested modalities in designing the OC it will go a long way in transforming the Orientation programme for greater empowernment of the young teachers who stay in this profession and improve thereby the quality of higher education.

Content of Refresher Course

By and large, the teachers were of the opinion that content of RC should be based on present curriculum and future changes which may be deemed to follow. Frontiers of knowledge should be introduced only after their linkage to present syllabus is established. Most of the teachers felt that RCs are

* Sisodia, M.L., Academic Staff Development Programmes in Higher Education-Vitalizing from experience- Report of UGC Sponsored Project, January, 1997- It Is being published as - Educating the Educators- Devika Publications, New Delhi-96.

meant for updating the knowledge of the participants who have attended the courses. These programmes should have less number of lecturers and more of practical, field and project work and teachers should also be exposed to inter-disciplinary approach. Participants should be exposed to latest subject specific teaching methodologies, audio-visual aids etc.

Planning and Implementation

The study points out that inspite of some sort of adhocism in design, content and identification of the faculty (resource persons), the courses appear to be quite logical rather than a matter of mere convenience to the participants (66 percent respondents). The participation, punctuality and regularity were quite satisfactory. Inadequacy of reading materials and lack of library facilities were observed by the participants. A few innovative teaching methods were demonstrated in orientation courses, whereas in refresher courses lecture method was mostly used. Most of the participants expressed that lodging and boarding facilities provided by ASCs were not good as needed. Most of the participants perceived that the duration of the courses was just right. It is perceived that in orientation courses the director's and course coordinator's involvement was of a high order. But the same was not seen in refresher courses A continuous objective evaluation of participants would be desirable. For this it is suggested that UGC may constitute an expert body for developing objective criteria and model for the evaluation of the participants. The study also suggests that every course must be backed by a long term meticulous planning to make it more meaningful and rewarding.

It is the considered opinion of the teachers that ASCs must prepare and despatch the course content, course material and specific expectations from teachers clearly spelt-out, well in advance to the prospective participants. It may be quite appropriate if the course participants be insisted on prior homework that calls for deep thinking and planning etc. for their respective courses. This act of participants may result into more meaningful discussion and innovations during the course. It is suggested that the course must be compactly scheduled so as to keep the teachers completely immersed in it. It will be appropriate if more and more problem solving type of sessions are arranged. For all this type of activity the ASCs is not having appropriate infrastructure as well as staff. The UGC must look into the problem.

Faculty (Resource Persons)

On the basis of the present study, it can be concluded that performance of the faculty in most of the courses was acceptable (Table 5.1, 5.2, 5.3 in pages 525 to 527) inspite of the fact that in every course some sort of adhocism existed in assigning the sessions to faculty. The performance of the faculty could be more effective if clear instructions are given to them by the Director or Course Coordinator about the objectives of programme and expectations. It may be worthwhile to impress upon the faculty that they are going to talk before academically sound people and not merely the students. It would be better to impress upon the faculty to treat the participants as their colleagues. The participants expect adequate upto date and relevant content besides proper preparation and planning of sessions by the resource persons. It is also expected that faculty member will give hand outs, synopses and references. It will also be useful if the participative mode of delivery system and audio visual aids are used.

The problem of irrelevant content and repetition could be minimised if course coordinator provides complete schedule with assigned faculty to the resource persons. This will help the faculty to decide as to what and how much is to be covered. It would be much better if local faculty* may be called for one day orientation workshop well before the course where they could decide the strategy of the course. The visiting faculty from outside be invited in the advanced areas of knowledge (or what are called frontier areas of knowledge) and there is some thing unique in the visiting faculty from whom the participants could learn substantially.

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* Note : As per UGC guidelines most of the faculty is to be invited locally and thus in this workshop about 98 per cent of the total faculty should be participating.

By and large teachers expressed that refresher courses too may have a component of pedagogy i.e. subject specific evaluation techniques and so on. It is suggested that in each session some time may be devoted by resource person to explore with the help of teachers the ways in which certain concepts be presented in class room for better teaching-learning outcome.

The reactions of the Principals and HOD's could be well represented by, "The change is not visible, but imperceptibly the environment is influenced. Certain kind of competency is observed in the academic environment of colleges" This impression speaks of the programmes of ASC's.

Concluding Remarks

The present study based on interaction with large number of teachers highlighted the weaknesses and strengths of Academic Staff Development programmes of ASCs. There is optimism in the academic community about positive changes that these programmes are bringing in towards better teaching-learning environment in the institutions of higher education. However, time has come for the universities to design and devise follow-up programmes ** for their teachers for sustaining motivation and enhancing the competence, so that the efforts of ASCs may bring the desired change in the academic environment in the institutions of higher education and quality of teachers and teaching.

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** These are discussed in Section 7.5 of UGC Report.

Table 1 : Responses of Three Groups of Respondents About Attitudinal Change Towards National Goals and Values (Frequency Count, Percentages and Average Weighted Score)

After attending the orientation course I feel that my attitude has become more positive and constructive towards-

S.No	National Goals and Values	Respondents	Average Weighted score	To a great Extent	To a some Extent	To a little Extent	Not at all	No Response
1	National Integration	ASC, Jaipur N=80	4.2	39 (48.75)	25 (31.25)	12 (15)	2 (2 5)	2 (2.5)
		ASC, Poona N=80	3	28 (35)	11 (13.75)	6 (7 5)	4 (5)	31 (38.75)
		Postal N=42	3.3	8 (19.1)	14 (33.33)	6 (14 28)	3 (7.14)	11 (26.18)
2	Equality	ASC, Jaipur N=80	4.25	30 (37.5)	44 (55)	4 (5)	-	2 (2.5)
		ASC, Poona N=80	2.77	17 (21.25)	22 (27.5)	2 (5)	5 (6.25)	33 (41.25)
		Postal N=42	3	7 (16.66)	14 (33.33)	3 (7.14)	5 (11.90)	11 (26.18)
3.	Secularism	ASC, Jaipur N=80	4.1	35 (43.75)	30 (37.5)	7 (8.75)	6 (7.5)	2 (2.5)
		ASC, Poona N=80	2.8	20 (25)	14 (17.)	8 (10)	6 (7 5)	32 (40)
		Postal N=42	3.1	8 (19 1)	10 (23.8)	7 (16.66)	6 (14.28)	11 (26.18)
4	Indian Tradition and multiple culture	ASC, Jaipur N=80	4.07	32 (40)	31 (38 75)	10 (12.5)	6 (7.5)	1 (1.25)
		ASC, Poona N=80	2.4	7 (8.75)	13 (15.95)	19 (23.75)	6 (7.5)	35 (43.75)
		Postal N=42	3	5 (11.9)	12 (28.56)	8 (19.1)	6 (7.5)	35 (43.75)
5	Adult literacy non formal education	ASC, Jaipur N=80	3	30 (37.5)	34 (42.5)	6 (7.5)	5 (6.25)	5 (6.25)
		ASC, Poona N=80	2.63	14 (17.5)	18 (22.5)	8 (10)	5 (6.25)	35 (43.25)
		Postal N=42	3	6 (14.28)	10 (23.8)	7 (16.66)	8 (19.1)	11 (26.18)
6.	Population explosion	ASC, Jaipur N=80	4	31 (38.75)	28 (35)	12 (15)	5 (6.25)	4 (5)
		ASC, Poona N=80	3	20 (25)	23 (28.75)	2 (2.5)	3 (3.75)	32 (40)
		Postal N=42	3	10 (23.8)	9 (21.42)	4 (9.52)	8 (19.04)	11 (26.18)
		ASC, Jaipur N=80	4	32 (40)	30 (37.5)	11 (13.73)	4 (5)	3 (3.75)

7.	Status of Women	ASC, Poona N=80	2.9	19 (23.75)	21 (26.25)	3 (3.75)	6 (7.5)	31 (26.18)
		Postal N=42	3.2	10 (23.8)	9 (21.42)	8 (19.04)	4 (9.52)	11 (26.18)
8.	Ecology Environment and Sustainable development	ASC, Jaipur N=80	4.25	38 (47.5)	30 (37.5)	8 (10)	2 (2.5)	2 (2.5)
		ASC, Poona N=80	2.85	38 (47.5)	30 (37.5)	8 (10)	2 (2.5)	2 (2.5)
		Postal N=42	3.3	9 (24.42)	10 (23.8)	8 (19.04)	4 (9.52)	11 (26.18)
9.	Community and Social Serivce	ASC, Jaipur N=80	3	28 (35)	39 (48375)	6 (7.5)	5 (6.25)	2 (2.5)
		ASC, Poona N=80	2.3	10 (12.5)	19 (23.75)	9 (11.25)	8 (10)	34 (2.5)
		Postal N=42	2.8	3 (7.14)	15 (35.7)	5 (11.90)	8 (19.04)	11 (26.18)

Table 2 : Responses of Three Groups of Respondents About Impact on their Personal Qualities (Frequency Count, Percentages and Average Weighted Score)

I feel that the process of the orientation course could foster the development of personal qualities in me such as :

S.No	National Goals and Values	Respondents	Average Weighted score	To a great Extent	To a some Extent	To a little Extent	Not at all	No Response
1	Creativity	ASC, Jaipur N=80	4.3	36 (45)	39 (48.75)	1 (1.25)	1 (1.25)	3 (3.75)
		ASC, Poona N=80	3.5	38 (47.5)	15 (18.75)	2 (2.5)	-	25 (31.25
		Postal N=42	3.3	11 (26.18)	15 (35.70)	4 (9.52)	2 (4.76)	10 (23.8)
2	Perseverance	ASC, Jaipur N=80	4.15	29 (36.25)	42 (52.5)	5 (6.25)	-	4 (5)
		ASC, Poona N=80	2.92	13 (16.25)	25 (31.25)	10 (12.5)	7 (8.55)	25 (31.25)
		Postal N=42	3.2	9 (21.42)	15 (35.70)	6 (14.28)	2 (4.76)	10 (23.8)
3.	Rationality	ASC, Jaipur N=80	4	34 (42.5)	32 (40)	7 (8.75)	1 (1.25)	6 (7.5)
		ASC, Poona N=80	3.14	24 (30)	20 (25)	6 (7.5)	4 (5)	26 (32.5)
		Postal N=42	3.36	10 (23.8)	14 (33.33)	3 (7.14)	5 (11.90)	10 (23.8)
		ASC, Jaipur	3.9	27	35	11	-	7

4	Secularisam	N=80		(33.75)	(43.75)	(13.75)		(8.75)
		ASC, Poona N=80	3.1	27 (33.75)	14 (17.5)	9 (11.25)	3 (3.75)	27 (33.75)
		Postal N=42	3.1	7 (16 66)	15 (35.70)	7 (16.66)	3 (7.14)	10 (23.8)
5	Humanism	ASC, Jaipur N=80	4.1	39 (48.75)	27 (33.75)	6 (7.5)	2 (2.5)	6 (7.5)
		ASC, Poona N=80	3.2	22 (27.5)	28 (35)	1 (1.25)	2 (2.5)	27 (33.75)
		Postal N=42	3	10 (23.8)	13 (30.94)	7 (16.66)	2 (4.76)	10 (23.8)
6	Self Reliance	ASC, Jaipur N=80	4.2	38 (47.5)	28 (35)	5 (6.5)	-	9 (11.25)
		ASC, Poona N=80	3	22 (27 5)	18 (22.5)	7 (8.75)	6 (7.5)	27 (33.75)
		Postal N=42	3.2	8 (19.04)	18 (42 84)	3 (7.14)	3 (3.14)	10 (23.8)
7	Group Commit-ment	ASC, Jaipur N=80	4.28	37 (46.25)	37 (46.25)	2 (2.5)	-	4 (5)
		ASC, Poona N=80	3.3	31 (38.75)	19 (23.75)	2 (2.5)	1 (1.25)	27 (33.75)
		Postal N=42	3.4	13 (30.94)	14 (33.33)	3 (7.14)	2 (4.78)	10 (23.8)
8	Optimism	ASC, Jaipur N=80	4.29	40 (50)	30 (37.5)	5 (6.25)	1 (1.25)	4 (5)
		ASC, Poona N=80	3	19 (23.75)	27 (33.75)	4 (5)	3 (3.75)	27 (33.75)
		Postal N=42	3.3	10 (23.8)	17 (40.47)	3 (7.14)	2 (4.26)	10 (23.8)
9	Patience	ASC, Jaipur N=80	4	40 (50)	27 (33.75)	4 (5)	3 (3.35)	6 (7.5)
		ASC, Poona N=80	3.1	22 (27.5)	23 (28.75)	5 (6.25)	1 (1.25)	29 (36.25)
		Postal N=42	3.2	9 (21.42)	17 (40.47)	2 (4.76)	3 (7.14)	10 (23.8)
10	Confidence	ASC, Jaipur N=80	4.14	48 (60)	19 (27.75)	1 (1.25)	1 (1.25)	11 (13.75)
		ASC, Poona N=80	3.1	31 (38.75)	14 (17.50)	3 (3.75)	1 (1.25)	31 (38.75)
		Postal N=42	3.4	15 (35.7)	12 (27.84)	3 (7.14)	2 (4.76)	10 (23.8)

Item 2 (b) : If yes in what areas some of the areas are mentioned below :

(a) National integration (b) Equality (c) Secularism (d) Indian tradition and culture
(e) Commitment to profession (f) Responsibility towards society and institutions.

Table 3.1 : **Frequency count and percentage for the responses to item 2 (b)**

Sl. No.	Respondents of	Total No. of Respon-dents	National Integra-tion	Equality	Secula-rism	Indian Tradit-ion and Culture	Commit-ment to Profe-ssion	Respon-sibility towards society and instit-ution
1	State of Rajasthan	186 (43.26)	54 (29.03)	37 (19.9)	25 (13.44)	29 (15.59)	95 (51.07)	92 (49.46)
2	State of Maharashtra	227 (52.79)	36 (15.85)	30 (13.21)	12 (5.28)	18 (7.93)	101 (44.49)	79 (34.80)
3	Postal Respondents	17 (3.95)	5 (29.41)	3 (17.65)	3 (17.65)	6 (35.29)	8 (47.06)	7 (41.176)
Col. Total Percentage		430 (100)	95 (22.09)	70 (16.28)	40 (9.30)	53 (12.36)	204 (47.44)	178 (41.39)

Item 3 : Do you think the courses i.e. OC/RC are helping the individual teachers to acquire :

Table 3.2 : **Frequency count and percentage for the responses to item 3**

Sl. No.	Respon-dents of	Total no. of respon -dents	New and uptodate knowledge		Professional skills		Handling the students effectively		Class room management		Acquiring needed attitude towards research	
			Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
1.	State of Rajasthan	186 (43.26)	152 (81.72)	34 (18.28)	144 (77.42)	42 (22.58)	102 (54.84)	84 (45.16)	91 (48.92)	95 (51.08)	123 (66.13)	63 (33.87)
2.	State of Maharashtra	227 (52.79)	188 (82.82)	39 (17.18)	132 (58.15)	95 (41.85)	62 (27.31)	165 (72.69)	46 (20.26)	181 (79.94)	153 (67.40)	74 (32.60)
3.	Postal Respon-dents	17 (3.95)	14 (82.55)	3 (17.65)	7 (41.18)	10 (58.82)	7 (41.18)	10 (58.82)	5 (29.41)	12 (70.69)	16 (94.12)	1 (5.88)
Col. Total Percentage		430 (100)	354 (82.32)	76 (17.68)	283 (65.81)	147 (34.19)	171 (39.77)	269 (60.23)	142 (33.02)	288 (66.98)	292 (67.91)	138 (32.09)

Table 4

S.No.	Major Areas	Topics/Items with total of weightage score 80 & above 80
1	Communication Skills	i) Public Speaking (138) ii) Linguistic competence (107) iii) Voice training (87)
2	Administrative Skills	i) Awareness of rules and procedure (95) ii) Decision making (95) iii) University system, various academic and administrative bodies (88)
3	Social Awareness	i) Counselling and Psychological methods (106) ii) Linkage between society environment, development and education (97)
4	Pedagogy	i) Question framing and paper setting (93) ii) Syllabus reforms (90) iii) Teaching methods (90) iv) Innovation in teaching (81)
5	Research	i) Research methodology (99) ii) UGC schemes and exchange programmes (91)
6	Organizaional ability	i) NSS, literacy and extension (80) ii) Planning forum (80)

Table 5.1 : Overall Faculty Role Effectivenmess (IFRE) (Orientation Programme) Number* And Percentage of Respondent**

S.No	Respondents of	Total No. of Respo-ndents (N)	Range of I F R E					NO Res-ponse	Weg-hted award
		.	0-20	21-40	41-60	61-80	81-100		
1	ASC, Jaipur	80 (40)	-	1 (1.25)	5 (6.25)	43 (53.75)	31 (38.95)	-	4.3
2	ASC, Poone	80 (40)	-	9 (11.25)	8 (10)	28 (35)	35 (43.75)	-	4.1
3	Postal Respondents	40 (20)	1 (2.5)	2 (5)	11 (27.5)	10 (25)	16 (40)	-	3.95
	Col. Total Percentage	200 (100)	1 (0.5)	12 (6)	24 (12)	81 (40.5)	82 (41)	-	4.15

* Figures indicate number of respondents.
** Figures in parentheses indicate percentages.

Note : The views of respondents were solicitied on 9 point differential scale (better to worst) about following 10 dimensions of Faculty Role -

1. Adequate Content Level,
2. Update Content Quality,
3. Content Relevance,
4. Effective Communication,
5. Innovative Instruction Methods,
6. Effective Class room management,
7. Planning and Preparation,
8. Teaching material,

9. Good Behaviour,
10. Competence.

Index of Faculty Role Effectiveness

$$IFRE = \frac{\text{Total Score} - 10 \times 100}{80}$$

(Adopted from Udai Pareek - making organisations role effective TATA-McGraw Hill, 1993).

Table 5.2 : Overall Faculty Role Effectivenmess (IFRE) (Refresher Course At ASC, Jaipur) Number* And Percentage of Respondent**

S.No	Respondents of	Total No. of Respo-ndents (N)	Range of I F R E					NO Res-ponse	Weg-hted award
			0-20	21-40	41-60	61-80	81-100		
1	Zoology	22 (8.3)	-	-	3 (13.6)	5 (22.7)	14 (63.9)	-	4.5
2	History	33 (12.45)	1 (3.03)	1 (3.03)	-	12 (36.37)	19 (57.57)	-	4.42
3	Mathematics	28 (10.56)	-	-	3 (10.71)	17 (60.35)	7 (24.85)	1 (3.55)	4
4	Physics	28 (10.56)	1 (3.55)	6 (21.3)	17 (60.35)	2 (7.1)	2 (7.1)	-	3
5	Hua. Admn.	29 (10.94)	1 (3.44)	-	3 (10.32)	7 (24.08)	18 (61.22)	-	4.4
6	Economics-I	18 (6.79)	-	-	6 (33.3)	8 (44.4)	4 (22.4)	-	3.9
7	Economics-II	22 (8.3)	-	-	-	5 (22.70)	17 (77.18)	-	4.77
8	E.A.F.M.	26 (9.81)	-	1 (3.84)	10 (38.4)	10 (38.4)	5 (19.2)	-	3.73
9	English	30 (11.32)	-	1 (3.34)	5 (16.70)	12 (40)	12 (40)	-	4.16
10	Phy. Edu.	29 (10.94)	-	-	1 (3.44)	6 (20.64)	21 (72.42)	1 (3.44)	4.55
	Col. Total Percentage	265 (100)	3 (1.13)	9 (3.39)	48 (18.08)	84 (31.64)	119 (44.91)	2 (0.75)	4.13

* Figures indicate number of respondents.
** Figures in brackets indicate percentages.

Table 5.3 : Overall Faculty Role Effectiveness (IFRE) (Refresher Course At ASC, Poona And Other ASCs By Postal Respondents)

S.No	Respondents of	Total No. of Respondents (N)	Range of I F R E					NO Response	Weighted award
			0-20	21-40	41-60	61-80	81-100		
1	Defence and Strategic Studies	26 (14.44)	-	-	2 (7.68)	13 (50)	11 (42.32)	-	4.34
2	Environment Science	37 (20.55)	-	1 (2.62)	10 (26.2)	13 (38)	12 (36)	1 (2.62)	4
3	Law	20 (11.1)	-	-	2 (10)	10 (50)	7 (35)	1 (5)	4
4	Marathi	27 (15)	-	1 (3.7)	4 (14.8)	4 (14.8)	10 (37)	8 (29.6)	3
5	Commerce	70 (39)	-	12 (17.14)	17 (24.28)	18 (25.7)	20 (28.56)	3 (4.29)	3.53
	Col. Total Percentage	180 (100)	-	14 (7.77)	35 (19.4)	58 (32.22)	60 (33.33)	13 (7.22)	3.41
6	Postal Respondents	45 (100)	-	3 (6.66)	10 (22.22)	16 (35.55)	16 (35.55)	-	3.64

* Figures indicate number of respondents.
** Figures in parentheses indicate percentages.

Teachers for the Twenty-First Century : Redefining Professionalism for Global Perspective

Saroj Pandey[1]

Introduction

During the last few decades, the world has witnessed an unprecedented explosion in the major areas of knowledge, population and aspirations. The phenomena of globalisation which made its first appearance in the economic sphere has spread to all walks of life including education.

As a result of rapid growth in science and technology, and development in transportation and communication network, the world is shrinking into a global village with blurred political and geographical boundaries. In the existing circumstances, no individual or nation can remain uneffected by the happenings in any other part of the world. Therefore, the future generation has to acquire new skills to cope with the demands of the complex society of twenty-first century.

Another distinguishing feature of the twenty-first century shall be the widespread use of electronic information and communication media both in day-to-day personal life at home and academic life at schools. With the satellite channels invading majority of homes in developed and developing countries, especially in the urban areas, the value systems are likely to undergo tremendous turmoils. As a consequence, children will come to school bearing the imprint of a world—real or fictitious far beyond the boundaries of the family and the immediate community. Ever increasing graph of violence and other criminal activities indulged by youth and adolescents, even by children under the influence of electronic media indicate the seriousness of situation. Therefore, the system of education shall have to be reoriented to instill values among children. Teacher's in the coming century will have to play a major role in helping the learners to distinguish between the real and imaginary world and try to strike a balance between the two.

The twenty-first century shall be characterised by the emergence of multiculturalism in many countries due to large scale migrations taking place as a result of industrialisation, urbanisation, globalisation and disintegration of joint family system. This will necessitate inclusion of multicultural education in schools. The citizens of tomorrow's world should be trained to be more tolerant and understanding towards various cultures free from any ethnic and cultural prejudice. At the same time, the global perspective must be balanced against the local and ethnic context. The nation's unique cultural and traditional identity and value system should not be lost in the race of globalisation. Therefore, the system of education shall have to be reoriented to play its combative role to check the invasion of cultural imperialism and enable future citizens to maintain a balance between their own cultural and traditional heritage and values of other cultural and social groups.

Yet another striking feature of emerging society shall be a shift in emphasis from directed learning to self initiated learning. Due to an easy access of electronic media and distance mode of education, the learners of tomorrow's world are expected to be more independent and autonomous. The fast expansion and adoption of distance mode of education at all levels may reduce the need to devote much time within the four walls of the class room. What would be the role of teacher under such circumstances? Would the function and importance of teacher be diminished? What type of professionalism is expected from teachers to effectively handle such situation? Do our teacher education institutions equip the trainees with necessary skills and competencies to deal effectively with the needs of emerging society? These are few pertinent questions which the paper attempts to answer.

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Role of Teacher in the Emerging Society

Since education is viewed as an instrument to develop the cognitive faculty, tolerance and understanding among learners and prepare citizens to understand and face the realities of globalisation—the role of teachers in the emerging society will definitely change from what it is today.

The need for change from narrow nationalism to universalism in its various manifestations places enormous responsibilities on teachers who participate in moulding the character and mind of the new generation. Their role will change in the coming years from mere technicians, i.e. from imparter of knowledge to interpreter of knowledge in the national context with a global perspective, and act as communicators of change. However, the major shift in the role of teacher that the world may witness in coming years is that instead of exerting direct influence on learners the teacher shall be expected to be more of a catalytic agent initiating the process of change. On the one hand, teachers shall have to develop the competencies to help learners in the techniques and strategies of knowledge acquisition and application, acquire strategies for peaceful and harmonious co-existence with others, and learn strategies to actualise their own potential. On the other hand, they shall also be required to display greater firmness in relation to fundamental values that should guide each individual's life. Therefore, a teacher will continue to be the single most influential factor in the life of learner in the next century also.

Teaching Profession: The Identity Crisis

Teachers in the contemporary society, therefore, need to be thorough professionals fully equipped with, both, high academic standards, pedagogical and practical skills and ethical and moral values. However, it is unfortunate that teaching is still in a transitional stage and is experiencing serious occupational identity crisis. The debate on whether teaching can be called a profession dominates the educational scene even at this fag end of twentieth century. Teachers, often themselves are uncertain as to the nature of their occupation and to which category they belong non-professional, semi-professional or professionals. There is a feeling among teaching community that they have been accorded a second class status while being given first class responsibilities.

Teacher educators as a world-wide group also seem to lack clarity on the professional identity of teaching and the nature of teacher education, whether at the pre-service or in-service levels. As a result, they have not developed clear mission statements for their enterprise. Such confusions may be damaging for the teachers and their occupations. It may also create an obstacle in delineating the professionalism expected from them for the emerging society. Therefore, it is high time teaching is accorded the status which other professions like medicine, law, etc. enjoy.

Teacher Professionalism in the Twenty-First Century

The rapid changes occuring in the world are expected to bring revolutionary changes in the society as a whole and education in particular. The rate of increase of new knowledge and demand for highly trained personnel have two implications for teaching in future; the pre-service programme for the preparation of new teachers will have to be upgraded in quality and its duration will have to be expanded and; a teacher will be compelled to continuously update and upgrade his stock of knowledge as his knowledge reserves may become obsolete and outdated after some time due to explosion of knowledge. Few important questions that need to be pushed to the top of the agenda of professionalism for emerging society are as follows:

* How an we develop skills and competencies among teachers required for a global village?
* How can initial training, induction and continuing professional development be more effectively related to each other?
* How can we develop positive self-image among teachers and motivate them to give higher priority to their own learning?

Professionalism for a global society demands teachers to be innovative in their attitude, flexible in their approach and inquisitive and reflective in their mind—always refreshing themselves with the day-to-day increase of knowledge in their subject area. They should be able to develop cross—cultural understanding and see life from a global perspective. At the same time they should be able to recognise

and value the human potential of learner put under their charge and provide enriched environment for their proper growth. Teachers are also expected to develop better understanding of human relationships and their environment.

Professionalism, therefore, implies professional preparation of teachers and their professional development through the mechanism of continuous in-service training programmes. The National Policy on Education (NPE, 1986) has rightly remarked that 'teacher education is a continuous process and its pre-service and in-service components are inseparable' (Para 9.4, p. 26). NPE also suggested complete overhauling of the system of teacher education and establishment of District Institutes of Education and Training (DIETs) and State Councils of Educational Research and Training (SCERTs) to bring qualitative improvement in both pre-service and in-service education of teachers. However, the utilisation of these institutions to their maximum capacity is still a distant dream in the absence of adequately trained personnel and lack of proper infrastructural facilities, etc.

Professional Preparation of Teachers

It is obvious that teachers in the coming century will have to develop professional competence and efficiency from a global perspective. However, a retrospection of the existing teacher training institutions and teacher education puts them in very poor light. The future vision in existing teacher preparation curriculum is totally lacking leave alone preparing teachers for a global village. This lack of dynamism may be suicidal for the whole system.

Teacher education institutions are expected to equip future teachers with latest methods, techniques and strategies for imparting instruction including the use of media devices and educational hardwares. But most of existing teacher education institutions either do not have such facilities or they lack the will to utilise these facilities or do not have adequately trained human resources to use these facilities for the benefit of teacher trainees, with the result, the teacher education programmes available in the country are hardly adequate to turn a trainee into a professional.

A profession generally requires a prolonged period of preparation along with a sizable body of specialised knowledge and observance of professional ethics by its members. The existing nine months duration of teacher education course which reduces to hardly six months training programme for all practical purposes including, both, the theory and practice teaching classes, is totally inadequate to prepare professionals, and needs to be increased for at least two years with immediate effect. The generalised nature of training programme, its content and weightage given to theory and practice are other areas of concern.

Another crucial issue in this regard is the entry qualifications of teachers. If the profession is to become more successful in the future, then entry qualifications should be raised to at least graduation level for primary teacher training, with an emphasis not only on academic qualifications, but also on personal qualities and aptitude for teaching. This is essential, keeping in view the ever increasing amount of knowledge and the desire to compete with other countries which will make school curriculum more challenging in the years to come.

The curriculum of teacher education is under constant criticism. The present rate of explosion of scientific and technological knowledge demands a dynamic and continuously evolving curriculum of teacher education. The changes likely to occur in the twenty-first century need to be visualised and suitably incorporated in the curriculum. However, it is unfortunate that over the years, adhocism has gone deep into the system and often modification in the curriculum is based more on the judgement of experts regarding what a teacher should know and practice rather than on any empirical and systematic analysis of the tasks a teacher has to perform. The curriculum as practiced at present does not demand rigorous work from trainees and does not develop professionalism.

A crucial part of education is classroom interaction of learners and teachers with the extraordinary ability of teachers to generate sparks of learning, even in the adverse circumstances. The practice teaching as followed in teacher education institution hardly develops such foresight among teachers and has very little relevance to the situations prevailing in classrooms. Furthermore, Indian classroom scenario, with its linguistic, cultural and religious heterogeneity provides a unique laboratory to teachers to practice tolerance and understanding in classroom situation being strongly advocated for

the years to come. However, not many teachers are equipped with necessary skills to utilise this unique opportunity for the benefit of learners.

The curriculum, therefore, should make all possible efforts to increase future teachers' awareness of global interdependence and must include a global perspective. The teacher education reform depends upon identifying the knowledge base for competent teaching in the emerging society and developing the content and pedagogy for the same. The teacher education curriculum should, therefore, be able to integrate our old and authentic past with the living present of existing realities and the needs of emerging future society. It should be able to prepare teacher trainees to :

- perceive and value linguistic, cultural and religious diversity within the country and in the world;
- update their perceptions of other cultural and national groups based on authentic evidence free from personal prejudice or bias;
- understand economic interdependence of nations and apply this knowledge in their working lives;
- be aware of the societal problems confronting learners like violence, drugs, discrimination on the basis of caste, creed and sex and be fully equipped with the techniques of coping such problems:
- be aware of threats to environment and of strategies to protect and improve environment;
- be able to appreciate and integrate their own and western culture without losing their national identity. They should be able to appreciate the distinctiveness of their own culture and values from an international perspective.

Preparing teachers for a global world, therefore, is a cumbersome process requiring careful planning and future insight among planners. The National Council of Teacher Education (NCTE) has initiated steps in this direction and prepare a discussion document on curriculum frame work for teacher education keeping in view the needs of tomorrow's global world.

Teacher Development

In the emerging scenario every profession is trying to ensure renewal of learning by all its members within a reasonable gap of time. Absence of such inputs results in weakening of expertise and skills. This is equally relevant in case of teachers. However, it is unfortunate that teachers and the teacher educators, both, tend to get alienated from the main stream of academic life after a few years of joining their profession. At a time when the knowledge is expanding fast, they can hardly afford to remain static. In service education, being an adhoc and sporadic activity in many parts of the country, has failed to make a visible impact on quality improvement. The existing models of in-service education have also outlived their utility. The nature, technique and methodology of in-service education needs to be given a new shape after a thorough study and analysis of needs of learners, teachers, and the systems of education. The developments in the field of technology have made it clear that the twenty-first century shall be a knowledge and technology driven century. Revolutionary changes are already being experienced in teaching and training methodologies due to use of various electronic software. The experiments conducted by NCERT for the training of teachers of Karnataka and Madhya Pradesh through teleconferencing are pre-cursors of teacher training through distance mode. Use of the distance mode of in-service education and strengthening of DIETs and SCERTs may help to revive the hope of quality in-service training programmes.

Professionalism in the twenty-first century expects teacher to be keen researcher and intense practitioner. The existing tripartite division of labour between researchers, university professionals and practicing school teachers needs to be abolished. University teachers generally distance themselves from schools and school teachers are often seen as students and not as colleagues in the educational endeavours. The school teacher, too often is, thus, isolated not merely behind the classroom doors but also in profession. Such tendency affects learners and the education system as a whole. Therefore, the need of the hour is that professionals at all levels of education join hands together in the welfare of learners and quality improvement of education. The teacher himself should be a keen researcher

experimenting with new ideas and methods, and not merely implementing pedagogical ideologies imposed from outside by higher levels of authority.

Professional teachers must be capable of profound reflection on practice component which they know and follow in classroom situation and theory or literature they read. They should be able to observe, document and analyse their own practice and experience and solve their day-to-day classroom problems empirically on the basis of testing various alternatives. This suggests, that, they should be well-versed in the techniques and methodologies of action research and use it as and when need arises. Each of these skills needs to be fostered through continuous and school based in-service training programmes.

Professional Accountability

At present an individual teacher's performance is monitored by a principal or educational authorities of varying levels of hierarchy. However, teachers for a global world are considered as moral agents of change and not merely technicians imparting knowledge. This changes the whole concept of accountability, because of; first, the teachers willingness to accept the responsibility of moulding the behaviour of students; second, the access and right of community to know what is going on in school; and third, the teachers become the judge of students improvement in learning. The professionalism of future, therefore, places major responsibility on the shoulders of teachers for the full development of students' personality with emphasis on self-reliance and ability to foresee changes, and to adjust to them and develop tolerance and understanding for others. The teachers of the next century, therefore, will be held accountable for developing critical faculty of mind and not only for high academic performance of students under their charge.

The Emerging Strategies

The globe is slowly moving towards the historical moments of transition to twenty-first century and education is seen as the most crucial instrument to face the challenges that the future holds in store. As such teachers have to perform a crucial role as catalytic agents of change and modernisation. Teachers in the coming century will have to perform the role of reformers by way of generating the need for change and helping community and students to adjust to the changing conditions and emerging socio-economic and educational needs. Preparing professionals with such vision is uphill task and expects a new paradigm of teacher education programme involving improved entry qualification for teachers, longer duration of training and modification in content, structure, and pedagogy of teacher education curriculum. The curriculum shall have to be more dynamic and responsive to the demands of emerging society and school curriculum like multi-cultural education, human rights education, value education, computer education and use of technology in transaction of curriculum.

Professional teachers for the global world need to be fully equipped with rigorous intellectual and moral qualities to understand and value their own culture and cultures of other parts of the globe, maintain a balance between the two, and help learners to view various events happening around them with open and objective mind and in a broader perspective. However, a conscious effort needs to be made to balance the global perspective against the local and ethnic perspective to guard against the invasion of cultural imperialism.

Linkage between teacher education institutions, schools and universities which is non-existent today needs to be established. The future teacher should be able to visualise his/her problems and solve them.

The twenty-first century shall be a knowledge-oriented, technology driven and fast changing society. The teachers shall be required to continuously update and upgrade their stock of knowledge through a well organised mechanism of in-service training programmes on regular intervals. A well planned system of in-service training programmes utilising both, conventional and distance mode, and strengthening and networking of institutions at different levels may help to prepare such professionals.

Professional teachers' judgement should be linked to appropriate accountability for student learning, broadening the horizon of their knowledge and developing capacity among learners to think locally and act globally, rather than to a particular authority.

Last but not the least any system of education cannot flourish without the support of community and government. Political approach to educational policy plays a vital role. Faulty and short-sighted educational policies and lack of political will to implement them in their full spirit may lead to educational catastrophe. Therefore, a partnership between school-community and the government needs to be developed on a priority basis.

In sum, the dream of a learning society, can become reality only when the dream merchants (teachers) are well equipped with moral, professional, intellectual, practical and communication skills to convince the customers, through their efficient service.

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A Human Touch in Teacher Educational System Development

S Nagpal[1]

Context

Curriculum change in teacher education has been long overdue because the existing curricula, which is basically more than 70 years old, has neither changed in substance, nor in form or duration. It has become totally irrelevant both to the actual needs of the profession and to the societal needs for national development. Rohidekar (1996) rightly remarked that "in the eyes of society teacher education has become a JOKE and a buff of ridicule as compared to the education of a doctor, engineer, lawyer or even an agricultural officer". NPE(1986) called for a **Radical change** by saying "Teacher education shall be overhauled". Social pressures are compelling us to include "Value Education, Computer Education, Environmental Education, Human Rights, Special Education; and importantly management of Education to make teacher education really professional and responsive to the needs of society.

Is classroom teaching a 'Trade' or truly "Professional" in the context of its having "No Professional Ethics" and "No Professional Management Inputs".

NCTE instead of professionalising the teacher education has adopted a bureaucratic approach on peripheral infrastructure and the game of numbers. NCTE has to answer and guide how the management of teacher education can be effectively incorporated into the already cramped education system? It is high time that we look around and take a lead from other professional courses.

Other professional Bodies are seriously engaged in modernising and deepening their courses. Internship an integral part of MBBS courses, is now being implemented in National Law School of India - which already has a five year integrated course after plus two stage granting a double degree B.A. Hons and LLB. The National Law School of India, has to be adopted as the Emerging Model for excellence in teacher education in India. Are, we, educationists seriously modernising and deepening our courses? An Internship which is an integral part of teacher education is to be looked into in order to make our teacher education program effective.

Teacher educators in India has been experimenting with many indigenous and borrowed western models of teaching. During (1970s) attempts were made to convert the Bloomian objective based evaluation model into an Objective Based Teaching Model called Advanced Curriculum Model of Cognitive Learning (ACMCL). The Regional Colleges of Education of Mysore and Ajmer experimented with the model in their teacher training programme. Nagpal (1983) explored the possibility of integration between the ACMCL and the Genevan approach for developing cognitive learning in the classroom. ACMCL is a three dimensional paradigm. It combines the input--Expected Behavioural Outcome (EBO), Method/ Modes /Media-Learning Experiences (LE) and the outcome Real Learning Outcomes (RLOs). The significance of the ACMCL has been emphasised to develop the mental processes through content and multi-way interaction among teachers, students and teaching learning material. Moreover, the developed mental processes are evaluated side by side through RLOs. This indicates that process and product in teaching learning process are interrelated.

The Genevan Approach emphasises the strengthening of thinking foundation on which anything particularly learning is grounded. Hence, at the early schooling, the aim should be to nourish the thinking capacity of the child through play way activities /games besides making him/her to read and write.

In the Indian context it is very difficult to bring a sudden revolution in the classroom by shifting it to a playground for the purpose of cognitive development only. At the same time the weaknesses of the traditional methods of teaching cannot be ignored, which neglects intellectual development, thereby defeating the very purpose of education itself. Hence a need was felt to develop a via-media, that is rapproachment between the Behavioural theory ACMCL and the Cognitive Development Theory-PMT. This approach has the potential for the improvement of classroom instruction,

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curriculum design, as well as for the development of concepts in various subjects along with cognitive development. It is noteworthy that Lunzer (1976) also felt the need of this type of integrated strategy for improving the classroom teaching. He observed - One of the principal objective in the study of cognitive development may now be to bring about a raproachment between Genevan approach and that of new behaviourists (Bloom, Carroll, Gagne and others). On the one hand, it may be fruitful to view the spontaneous development of operational behaviour as the outcome of transfer from related but not identical tasks, on the other hand, it seems essential to supplement the kind of hierarchical conceptualization as envisaged by studying the complementary role of the Piagetian hierarchy, which deals not so much with the knowledge relevant to success in a particular task as with the way in which these elements need to be used together to enable the subject to cope with more complex relations.

It is necessary to reiterate that Dave (1976) also propounds a hierarchical arrangement of EBOs. Keeping in view the remarks of Lunzer and empirical evidences of a few studies, an effort is made to develop a teaching-learning strategy which will fulfil the requirements of both the behavioural Model and the Cognitive Development theory.

Nagpal (1996) in her paper discussed the characteristics of the Rapprochement Strategy, salient features and the findings of five empirical studies conducted by her and by her students to verify the relative effectiveness of teaching techniques in relation to achievement and creativity of the students (Manjula, 1980, Nagpal 1993, Vanita 1985, Mahindra 1986 and Kour 1994). However a few most important findings of the above studies are:

1. The instructional material developed on the rationale of Rapprochement helped in achieving higher mean scores at all levels of learning in science and creativity components than that used in the Traditional Method of Teaching.
2. Overall results indicate a strong association between content on the one hand and objectives of creativity components on the other. Cognitive learning processes as well as products developed through instructional strategies separately and /or integrated having content of prescribed syllabus, were tested which indicated a positive relationship between them. Levels of achievements and creativity components are hierarchically related and cumulative in nature. The analysis of data revealed a consistent and systematic increase in the relationship of creativity, components i.e., fluency flexibility and originality to achievement levels.
3. The Rapprochement strategy contributed significantly to all the criterion variables.

These results strongly suggest that while the OBT (ACMCL-based) and PMT do help in enhancing the achievement and creativity, their hybrid variant Rapprochement strategy may offer more fruitful results. There is no gain saying that it opens up a promising avenue for exploring the possibility of integrating the two theories in teaching practice too in preparing teachers at the elementary level. RIEs of Ajmer and Mysore experimented with the ACMCL model in their teacher training program. There is now need to try this model in DIETs.

It is felt that teacher education institutions are not able to maintain Total Quality Management (TQM) in preparing teachers in this direction. There is lack of dedicated efforts in bringing change and experimenting with new models keeping in view the demands and needs of society. These institutions need a spark of managerial skills of a dedicated leader for their maintenance of TQM. The literature on management revealed that management of any organisation is a highly specialised area, but it is totally neglected in educational sector. The important component is human resource development climate which is affecting total quality products. In teacher education, the product is a trained teacher whose quality is to be ensured by teacher educators. During the process of teacher preparation the latest methods of teaching learning are supposed to be developed. The sufficient practice and drill is to be given in the acquisition of required skills of teaching as an art and science which is not happening. An attempt was made to have an audit survey of the Human Resource Development Climate of Elementary Teacher Educational Institutions of 16 DIETs of five northern states. The HRD climate is characterised by human states. The HRD climate is characterised by human touch of joy, care, trust, reward, team-spirit, collaboration, feedback and so on among the staff. The relationship among all members is supposed to be very cordial and not hierarchical. There is a need of vision for the institutional mission. The Qualitative and quantitative data revealed that the HRD climate in most of these institutions were not so conducive for TQM (Nagpal, 1997).

Teachers are the first and the most effective agents in long chain of human learning. In some of the major areas, leadership has to play a path breaking role in teacher education concerning the intellectual and attitudinal tuning of its future teachers. The leadership itself, at present, shows pathetic signs of rigidity in terms of curriculum change, insensitivity towards new information, apathy towards the delicacy of human material and mindless authoritarianism. It has to be understood that teaching is unlike any other profession where the subject of work is neither inert nor static, but live human being , suspect, at the same time willful impressionable, at the same time autonomous.

The quality of elementary education depends on the quality of elementary teacher education. The student teachers of DIETs who would be future elementary school teachers are expected to bring out desired changes among the pupils. The major objective of teacher training is to empower teachers to meet the present day challenges by equipping him with necessary competencies of teaching. Elementary teacher education institutions should have adequate inputs to cherish the objectives of modern elementary teachers with necessary skills. An attempt was made to explore the input provided in DIETs on the teaching competencies of pre-service teachers. A survey of the process of preparing teachers during teaching practice program was conducted through personal visits, informal interactions, group discussions, interviews and observations. Perceptions/opinions of teacher-educators and student teachers were also obtained towards the preparation of teaching practice and internship program in the co-operative schools, the role and significance of peer-group observation, supervision /evaluation-process, criticism lessons, and towards the importance /relevance of lesson planning etc. (Nagpal 1996). Survey revealed the following:

1. Great variation in the number of phases in the internship /practice-teaching program in different DIETs (6\3 weeks) as:
   - First Introduction.
   - Micro-Teaching.
   - Internship in Schools
   - Block-Teaching.
   - Criticism-Lessons.
   - Final Lessons/Evaluation.
2. Variation in the duration of various phases (10/20/30 days) in various DIETs.
3. Variation in the number of lessons (2/3/5/10) per subjects in DIETs.
4. Variation in the number of peer group observation lessons (3/5/10).
5. Lack of written critical comments on the lesson-planning. Supervision of the practice-teaching was limited to the writing of the same sentences/phrases on the plan for almost all trainees by supervisors as well as by the headmaster of the co-operative school. In one of the school it was found that the head-master of the school had awarded nine out of ten marks to all trainees.
6. Great variation was observed in the format of the lesson-plan on different subjects within and among DIETs. A peculiar mixture of Harbartian method of lesson planning with that of Bloomian objective based evaluation system was being followed without any commensuration of the same with the actual teaching in the classroom.
7. Training of teaching skills was imparted not by doing/demonstrating, but by lecture method only.
8. Absence of multimedia approach, Minimum Levels of Learning, Child-centred/activity based teaching-learning process/Operation Black-board (OB) material in the internship programs.
9. Insufficient staff-strength for the monitoring/supervising of the internship in the schools.
10. Lack of motivation/interest in the teacher-educators in monitoring practice-teaching due to the poor remuneration and transportation facilities.
11. Training Methodoloy used during internship was not commensurate with the guidelines of the DIETs.
12. Multi grade teaching lessons were observed in a few DIETs of Rajasthan. It was discovered that a student teacher was teaching to three classes and three different subjects simultaneously. The classroom space diagonally divided into four. The total 45 minutes period was divided into 9 phases. In five minutes three subjects and three classes were being covered either by person or through instructional material or through exercises/activities. After every few minutes the

student teacher was shifting her role for all the three classes. Classroom teaching of the student teacher was a ditto replica of the lesson plan, which was kept at the back of the class for the observational comments of the supervisor. It was very surprising that the teacher educator was able to discern the matching of the teaching and the lesson plan from the time of the watch. The efficacy of such teaching strategies in the other states and in the field needs to be tested.

On the basis of above findings, it is essential to have a standard procedure for the internship program, where the format of lesson plan for all DIETs as a guide is given along with the number of lessons to be delivered per subject, number of lessons to be observed by peer-group, number of lessons in multi grade teaching, duration of phases in the internship program, etc. Training in the use of multimedia approach, OB/science kits, MLL based teaching-learning process is required.

The findings of these isolated research studies led the author to conclude that in order to achieve the goal, Education For All in the context of development in education, the first target be, toward achieving the TQM in preparing teachers. The standard process of practice teaching programme as per the guidelines of the DIET should be worked out under the managerial skills of academic leaders. The academic faculty of DIETs should be provided an academic autonomous psycho-social environment where they feel free to experiment with new teaching practices as well as experience the joy of sharing with their fellow faculty under the academic support of their leader. As it is said, Example is better than precept. This academic environment will automatically radiate the young inquisitive minds of would be teachers who are already bubbling with energies to do something great as future nation builders. In this receptive environment, the latest research based innovative practices be made available in the library through research journals and other periodicals. Necessary clerical support system should be made available as and when required. It should be made very clear that development of thinking minds of teacher-educators and of future primary school teachers is not thwarted by any type of block either human or physical. There is a dire need of human touch to support educational skill development in such a way which on the one hand grasps and reflects the specificities of Indian culture and on the other hand responds to the needs and demands raising from the modern world. It is empirically found by Sabharwal and Nagpal (1997) in the case-study /biographical research of innovative primary school teachers that in schools, the success, development and sustainability of innovative ideas depend on teacher's efforts and interests in connecting schooling with life in the local community.

The pedagogical reforms that are now developing are of course to be seen as a result of co-operation between western and Indian researchers and educationists. A co-operation which is related to development strategies and the content of reforms. The research methods, theory and the very content of reforms to a large extent are based in and provoked from outside the Indian culture. The question is whether these modern approaches support national capacity building or on the contrary creates new dependency.

The Danish reform tradition has three milestones: folk enlightenment, child centred teaching and experienced based teaching. In spite of crucial differences in theoretical focus in these three streams, their development implications contain a number of similarities and common features. Cut to the bone, they are about maintaining the participant perspective in teaching. In "folk enlightenment" as an ambition that the enlightenment as starting point and perspective has the popular experiences and insights as a criticism of the 'Black School', the book based school of the privileged classes in the last century : in reform education theory the 'child centred teaching' as the pivotal point to support bringing out and developing individuality, and finally in experienced based teaching, as an effort to make pupils aware and develop action competence in relation to specific socio-economic and cultural circumstances of life. All these things are possible if teacher education system in the country take a lead and incorporate the above concepts in their theory and practices of preparing teachers with a due recognition to human touch as a basic need. There is a dire need of preparing training modules in teacher education programme keeping in view these concepts.

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Higher Education : A Global Challenge for 21st Century

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Introduction

The highlights of the recommendations of the International Commission for Education for the 21st Century of UNESCO published recently (Delors, 1996) has emphasized on the role of education for peace, freedom and social justice. The report has identified the four pillars of education as (a) learning to know, (b) learning to do, (c) learning to live together, and (d) learning to be. Higher education in future should be oriented in conformity with the four mottos of UNESCO's new educational ideals so that the treasure within every inhabitant of the globe is achieved in 21st Century. Life long education (UNESCO, 1987) as considered to be the basis of education by UNESCO in 1972 has also been incorporated in the recommendations. The problems and innovations in higher education in the global context are many and varied. The enrolment of students in higher education has increased significantly all over the world. From 28 million in 1970, the enrolment in higher education soared to 65 million in 1991. The population of the world was 5.5 billion in 1991 Most of the increase in enrolment totalling 30 million took place in the developing countries. In India the enrolment in higher education was 0.6 million in 1995. Such a huge aspiration of learners in higher education demand rapid expansion of infrastructure facilities including competent teachers. But unfortunately the work and the performance of the Universities and other institutions of higher learning all over the world are not in keeping with the requirements of the societies they serve (Pawar, 1995) Before analysing the problems of higher education globally, it will be appropriate to look at the growth and the ideals of the universities.

The Universities in the developing countries are modelled on the pattern of Universities developed in the European countries of medieval Europe. The modern multiversity framework has not infiltrated into the developing countries at present. Universities of today are mainly high technology and information-based. Even the developed countries are unable to pattern the universities in tune with the ever increasing knowledge and information explosion. There is a need for transformation, much more in the developing countries. The British, the German and the French Universities are far ahead of the universities in the rest of the world except the United States of America. The universities in the United States are unique and different from those in Europe. In Europe, the universities in the mid nineteenth century were oriented in the pattern being followed by the developing countries now. The tertiary institutes for industry and commerce were established outside the university system in Europe. Only in 1995 the polytechnic institutes of England were declared as universities of technology. On the other hand, the Morril Act, 1962 encouraged development of State Universities relevant to agriculture and industry in the United States. In fact these ideas of the Universities, private or state managed or funded, are the backbones of the innovations in technology and agriculture in the United States.

The Universities established and developed in the nineteenth century have undergone diversification to a great extent with the objectives of lifelong education. Scientific knowledge becomes outdated quickly. Its application needs overhauling with emphasison intellectual, scientific and technical principles to cope with trends of expansion of new knowledge. The universities in the advanced countries have diversified their courses, suitable to individualistic needs and capabilities and have encouraged part-time students (Chapmm, 1983). The universities in the third world countries with European model have tried to imitate the Western ideas but the traditions and the cultures of the West are not acceptable to the societies of these countries. Although there are international exchanges of knowledge and know how at the research levels by training and exposure in the universities of the developed countries, the outcome is

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not of equal overall social and economic benefits to the people of the third world countries. In fact, according to Chapman (1983), "No other civilization, not the Chinese, Indian or Islamic, invented an institution specialised for intellectual education, this is unique to the West." This reality must be understood by the policy makers of higher education in India.

Higher education in the undergraduate level even in the developed countries is uniform and it emphasizes on core contents in curriculum. For example, the nature and content of general curriculum of general chemistry in the United States are not different from that of Indian educational institution (Toft, 1997). But at the graduate level it is not so. Modern industrial society is directed to mass production and consumerism. This direction has led to the establishment of universities utilising information-based technologies and mass communications for imparting education, training and research. The universities in the developing countries are also trying to get the imported technology globally to cope with the electronic media, but lack of funds for infrastructure has hampered the institutions with deterioration of quality. The governments have not grasped the significance of investment in education for generation of human capital for economic and social development.

In spite of emphasis on vocationalisation and shifting to curriculum based on science and technology, the higher education policy cannot ignore the basic objectives of public services - health, education and welfare of the communities. Ever increasing population and degradation of environment are the challenges for the higher education planners of the 21st Century. Renewable energy is another area of concern. All these challenges for the survival of the human race need huge investments in infrastructure and education at the higher education level. The developing countries will have to place sufficient funds at the disposal of the managers of higher education. Privatization with quality improvement may be one of the ways for expansion of higher education. Privatization has been attempted in several countries. Columbia, Japan, Republic of Korea, Latin America, Thailand and Argentina have encouraged enrolments in private institutions (Tilak, 1991). Privatization at different levels of higher education in the developed and the developing countries have led to mixed response. Psacharopoulos (1997) opines that privatization of higher education improves income distribution as public funding in higher education, with all its perverse effects, is generally found to be regressive.

Universities in the third world countries should do away with the eurocentric model of university education. This model has led to imitative knowledge and information. The outcome is low quality leadership. The university education as practised and developed in India has hampered originality, innovation and high quality academic pursuits. The system has failed to motivate teachers due to bureaucratic centralised policy making. As a result, the teachers' organisations have lost importance as associations for social and economic development. Just training the teachers at different levels will not make any impact on quality education. Any one having a certificate with high marks may opt for teaching. But a teacher needs motivation, commitment, inquisitiveness and interest in learning. These characteristics are rarely observed in the teachers of present India. UNESCO also emphasizes to have teachers as learners through life long education. Universities should produce teachers and citizens for social, economic and cultural upliftment of the community. Teachers should have a missionary zeal to evolve a suitable system of education which will cater to the capabilities inherent in every learner. Science, technology and development should be interrelated to education for a better quality of life for mankind in all spheres of human activities. Science interacting with the surrounding society implies that the developing societies should try to look at their own scientific and technological development strategy. UNESCO points out that in developing countries, the universities have a key role where teachers and students from a variety of backgrounds can work together, combining training and research, study and production, tradition and progress, attachment to one's identity and responsive to the world, catering to the continuity for awareness in the day to day problems of health and hygiene, child care and education for all formulated and financed by international agencies. The report of the Commission on Education for 21st Century by UNESCO(UNESCO, 1996) in its pointers and recommendations from basic education to university education, has identified four responsibilities for the universities :

To prepare students for research and training;

To provide highly specialised training courses adapted to the needs of economic and social life;
To be open to all, so as to cater to many aspects of life long education; and
International co-operation.

The aims and objectives of higher education in India will have to be rooted in the cultures and traditions of a civilization well ahead of the European civilization by thousands of years. Unlike the Western countries India developed university education in the 3rd to 4th centuries A.D. Nalanda is unique in its design, structure and quality of teachers where students from all the Asian countries studied religion and Buddhist doctrines. Vikramsila, Taxila, Udantpuri all looked to the past for its ideals rather than to the future. The authority of a Veda and the supremacy of the Brahmin priesthood dominated Brahminic education in India (Keacy, 1992). The Western colonial rule had almost eliminated the traditional system of learning in India (Basu, 1995). The Indian traditional system confers greater responsibilities on the teacher, than the institution. The European education system demands responsibility from the institution. The universities in India as established by the colonial rulers were basically examination centres for conducting terminal school education. From 1857 to 1947 only 20 universities were established in India along with 437 colleges. More over, there were 5 institutions of post-graduate courses in Engineering and 22 in Medicine. After independence there is a phenomenal expansion of Indian universities.

There are about 2.86 lakh teachers with 6 million students. Only 6% of the students of the relevant age group of 16-22 years get opportunities for higher education compared to 20% in the European universities and 50% in the United States. The following table (Table 1) shows the growth of colleges and universities in India (Delors, 1996).

Table 1

Growth of Colleges and Universities in India

Year	No. of Universities	No. of Colleges	Enrolment
1950-51	30	750	2,63,000
1960-61	49	1537	6,45,000
1970-71	93	3604	19,53,640
1980-81	123	4722	27,52,437
1990-91	177	7121	44,25,247
1992-93	187	4958	48,05,000
1993-94	197	8210	50,07,000

The standard and quality of education in the universities and the colleges affiliated to the universities are not in keeping with the modern trends of idea of a university. Most of the affiliated state universities are always regarded as liabilities rather than assets by the state governments. As funds are scarce and about 70% of the funds of the UGC are being alloted to the Central Universities, no infrastructural development worth the name is possible in the State Universities. Even with full funding from the Central Government the Central Universities are no better. The research and teaching are stereotyped without any innovations but only imitations of Western science and other disciplines. Business and commerce are also stereotyped. Only some rethinking has paid dividends in the management institutions with withdrawal of financial support from the government. The administrative structures in the State Universities and the colleges and University Grants Commission is conducive to create an innovative zeal among the teaching community. Libraries are managed in an unplanned manner. Books and journals are not updated by continued purchase and subscriptions. This suffocating atmosphere has further deteriorated the standards. Because of sudden withdrawal of grants, both by the state and the UGC, higher education in the State Universities have lost the meaning of quality education.

The universities in India should receive adequate funds from the government. At the same time, the general public must be benefited by the university system. The universities will have to play a greater role in solving the problems of the community. The teachers should change their outlook to accept teaching as learning to make the student learners in all aspects of social life. The challenges for the 21st century will be to identify a new generation of teachers with the required motivation and expose them, through teaching, to real life situations of the community. They must be well versed in the problems of rural India and take part in the development of rural India through teaching and research pertinent to imparting a better life to all. Science and technology as developed in the Western countries will not pay dividends for the rural community as such. The students of village India should find avenues in their own rural areas for social and economic development. The University Grants Commission has lost relevance after the creation of NAAC. Hence the funding should be straight from the Centre to the states. 40% of the budget of all universities should be borne by the states, 40% by the Centre and the remaining 20% by raising tuition fees. If any resource is mobilized by the universities it should be utilised for expansion and creation of infrastructure in higher education. The library should be well equipped with internet facilities. All students should be assigned library work so that the students develop the habit of utilising the library. The syllabus and curriculum should be updated. NAAC should see to it that all syllabi are updated every three years. The so called Central Universities should be able to obtain 40% funds from their better footing or funding in infrastructures. Maintenance and development grants should be specified and relaxed quarterly and on time. The institutions which fail to implement the budgetary commitments should not be released further grants. All universities should have administrators with managerial expertise. Business management and accountancy through total quality management can only save the universities. The quality will improve at all aspects only then.

Educational reforms in higher education needs a new Commission, because the NEP, 1986 with its plan of action with subsequent modifications in 1992, have failed to improve management and quality of education. The establishment of Academic Staff Colleges for orientation and refreshing the teachers have not benefited the students or the society. In fact, they have become wasteful expenditures. In place of Academic Staff College, a full paper on each discipline on education will be much more beneficial to the students and would-be teachers. NAAC appears to be an `ivory tower'. Our elite community have not yet looked at the problems of the needy. Unless the quality of the institutions are improved how will accreditation make an impact? The education system at the higher levels are victims of the resource crunch. Lack of adequate funds has made science education useless. Teaching shops aimed at increasing the market value of students have exploited the students. A large number of private institutions have also come up for commercial exploitation of innocent learners. Quality education has become a far cry.

Unless the government realises the damage which has already been done to the higher educational institutions by remaining aloof to providing funds for their awakening, I am afraid, the whole fabric of Indian democracy will be at peril. The political leaders and the bureaucrats who are the backbones of the NEP announced in 1986 in para 5.20" Many of the 150 universities and 5000 colleges have not been provided with minimum level of infrastructure for maintenance of quality and standards. Provision of the facilities are essential to protect the system from deterioration." (Government of India, 1986). The government, X on the other hand, took place in the developing countries done the opposite.

To make higher education useful and qualitative, India will have to produce men of knowledge, skill and action capable of bringing about social change. For this realisation the university ought to be an arsenal from which intellectual weapons can be drawn. To fight against social products which sometimes produce intellectuals who are capable of extending new ideas to the causes (Singh, 1986-87).

The future of India will be economically and socially bright if we can accept the challenges of globalisation effectively. The global production over the last 200 years has completely dominated the markets created by demand and supply of new materials for human comfort and better quality of life surpassing what had been produced during the earlier centuries of human civilization. The global economy should cohabit with rural economy in India. The global environment demands human resources with continuous skill formation for an ever changing innovative technology. The rural economy needs

attention for innovative technology. India, the largest democracy of the world, should accept this challenge with proper output from the higher educational institutions. The cultural and traditional roots of the society will have a far-reaching impact on rural economy. So far globalization has anot made any appreciable change in the higher education system in India. This is universal as discussed by McGinn, 1997. The new technology of production has increased the use of information in all aspects of production and distribution systems. This needs localisation of decision making and increased participation by all workers. Change will occur only when local managers, with clear ideas on new kinds of education, are given the authority to act. Human resource development is central to economic growth. Psacharopoulos (1974) has suggested adequate investment in education for human resource development. Nathulal needs attention with Mungerilal in India (Passi, 1997).

If we want to compete profitably in global environment, then Indian higher education system would need patronage from the government. In order to achieve better quality of life for all, we must accept this challenge of imparting higher education of superior quality in 21st Century (UNESCO, 1996). We have to develop reflective teacher education and curriculum relevant to local area development and planning. The idea of education of Mahatma Gandhi, Rabindra Nath Tagore, Swami Vivekanand and Aurobindo Ghosh should be reflected in the higher education policy of India. The new Education Commission should examine these suggestions to enable the youth of Indian accept the challenges of the 21st century.

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Developments in Higher Education in India : Caravan of 50 Year

Milind Sahasrabuddhe and Sujatha Srivastava[1]

Higher Education provides people with an opportunity to reflect on critical, social, economic, cultural, moral and spiritual issues facing humanity. It contributes to the national development through specialized knowledge and skills.

- National Policy of Education-1986

Institutions of higher education play a vital role in the national development because all the productive sectors of economy get continuous supply of skilled and trained man power from the institutions of higher learning.

In India, too, when one looks at the developments in the different fields over the last 50 years, one of the main reasons for this, is the progress in the field of higher education. In a formal set up, higher education is provided through colleges and Universities.

The history of higher education in this country is very old In olden days, we had famous institutes like Takshashila, Nalanda, Vallabahi and Vikramshila where even foreign scholars also came to study. During the Muslim period, Matubs were the institutions of higher learning. In 1854, the British established the modern type of university at three places--Bombay, Calcutta and Madras. They were established on the pattern of London University. These universities were affiliating in nature.

Since 1947, the progress in the field of the higher education has increased by leaps and bounds. Today, India enjoys a good reputation with regard to highly qualified scientific and technical human power even among most the developed nations.

In 1994, there were 220 universities, 7500 colleges and 50,00,000 students, pursuing different types of courses at various levels of education. Today, Indian Universities offer a wide range of courses in different branches -- right from the diploma to the post-doctoral level.

The authors of this paper have tried to examine in a critical way the developments in the field of higher education in India over last 50 years.

The purpose of this exercise is not limited to the collection of mere facts about developments in this field but to critically study why these developments took place, what are the shortcomings which still exist, what kind of challenges the system will have to face in the near future and what needs to be done in future. The authors of this paper have tried to highlight the developments in higher education with regard to certain aspects.

Enrollment

As is evident from the statistics presented earlier in this paper, the enrollment at higher education level has increased steadily. Since 1947, the government has tried to promote higher education and it is clearly evident from the appointment of the University Education Commission in 1949 soon after independence. It was headed by Dr. Radhkrishnan.

Thereafter, different commissions and committees have also recommended several measures to promote higher education. One of the glaring features with regard to increase in enrollment is that it has increased even among women, lower socio-economic strata and in rural areas too. This is desirable for a nation which dreams to have a democratic, secular and socialistic society. Today, higher education is no

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more privilege the of a few elites. Increasing enrollment of women, has helped them to be equal partners of men in economic and social fields - at least a humble beginning has been made. One of the major reasons for this could be attributed to the efforts of the government in this regard through implementation of some of the equity measures. The Government of India, through the Constitution, has prohibited discrimination on the basis of sex, caste, colour, creed, religion, region and language. (Article 14) The admission to institutions of higher education is open to all without any discrimination. Moreover, special equity measures have been given in the form of reservation of seats, freeships, scholarships, hostel facilities, book bank facilities, etc. to the disadvantaged sections of the society. All these have helped to step up the enrollment. Not only this, but enrollment today is no more confined to few branches of studies as it was earlier. A wide range of courses are now available to the students in the field of Technology, Medicine, Management, Mass Communication, Marketing, etc. The present era is of specialization and superspecialization in these fields, and India has done quite well in this regard. The enrollment has also increased in some institutions, providing professional courses of high reputation like Institute of Company Secretaries, Institute of Cost and Work Accounts, etc. These courses fetch higher economic returns for those who complete them successfully.

Methods of Instruction

The methods of instruction in the field of higher education has witnessed several changes. Although the lecture method continues to be the major one, some other methods also have came into prominence such as seminar, project, assignments, etc. They have contributed to the development of higher cognitive abilities and meta cognitive abilities. Educational technology too has made its impact felt in this regard. In the last few years, through computer softwares, audio & video cassettes, television etc., especially with the emergence of distance education system, it has contributed to this. Technology has helped to inject the element of efficiency in the system. The importance of technology has increased especially after the recommendations of NPE 1986.

Non-Formal System

After the recommendations of NPE, 1986 and its Program of Action the non-formal system has gained increasing importance in the field of higher education--especially after IGNOU came into existence. Today, the distance mode of education and open learning system is becoming popular through open universities established in different states. The distance mode or open learning system helps those learners who want to do" Learning with Earning" or those who, due to different reasons, cannot join the colleges/universities as regular students, and can, therefore, pursue education only through this system by learning at their own pace and place.

This system too offers different types of courses for different levels. Another notable feature with this system is that it not only provides printed material but it makes use of educational technology in various forms along with face to face guidance, provided through their study centres.

In pursuance of the recommendations of NPE, 1986 and its POA, autonomous colleges have been established in some parts of India.

Caravan

The POA, 1986 envisaged establishment of 500 autonomous colleges during the 7th Plan. The basic objective had been reductions of the number of colleges on university system, decentralization of academic administration, promotion of creativity, innovations and higher standards. Autonomous colleges were expected to have the freedom of prescribing rules of admission, determine courses of study and methods of teaching and evaluation, conduct of examination, etc. But the concept of autonomous college and program for their establishment have come under criticism mainly on account of

apprehensions on part of the teachers regarding increased workload, probable lack of recognition to products of these colleges and arbitrariness on the part of the management.

Over and above these, some other developments too have taken place in this field such as self-financed colleges, national testing system for lecturers and research fellows, establishment of CASE, increase interactions between universities and industries, etc.

Over the last couple of years, due to a paucity of financial resources, self-financed colleges have been permitted to function. This has reduced the burden on the government with regard to increasing amount of subsidies given for higher education. These colleges can charge higher fees and have their own managing committees to manage their daily affairs and can fix their own criteria for admissions, especially for **payment seats**. This has helped to satisfy the increasing demand for higher education- at least to some extent, especially in the rural areas.

The national levels eligibility examination for qualifying to become lecturers or to pursue Ph.D./M.Phil. courses has contributed injecting quality in towards the system as it would help the meritorious students to pursue research courses and to become competent lecturers in colleges/universities.

The establishment of CASES, have contributed to the continuous generation of a high level of knowledge in different branches of education. The DRS, DSA and SAP Schemes of UGC has also helped different universities to undertake researches on continuous basis.

Academic staff colleges, too, have helped the college/university teachers to gain in-service training with regard to different aspects such as teaching methodologies, research methodologies, communication skills, use of educational technology, evaluation methods, role of students and teachers' unions, university governance, etc. In pursuance of NPE 1986, UGC set up 48 Academic Staff Colleges in different parts of India for organizing orientation programs for newly appointed lecturers and reorientation courses for in-service teachers. A report by UGC says that, by and large, these colleges were useful.

After examining the developments in the field of higher education, it is also necessary to look at the shortcomings. In this regard the IV Survey of Research in Education commented, "Any attempt to review the development of the system of higher education results in critical comments about the system. To many, higher education in India today has became useless, serves no purpose and has failed to meet the needs and challenges of the present world.

But the authors of this paper feel that the picture is not that gloomy. The system certainly needs reforms; it is natural with any system to faces disequilibrium which, over a period of time, gets restored back to equilibrium. Every system has to face certain challenges and changes as nothing remains static. But at the same time, rational human beings cannot and should not bring reforms arbitrarily; reforms must be conceived and implemented only after proper identification of shortcomings or drawbacks. Keeping this in mind, the authors of this paper have concentrated on only a few very important issues.

As has been reported earlier in this paper, the enrollment in institutions of higher education is no more confined to urban centres only, but colleges have been opened in rural areas too. But one major problem in this regard is unplanned growth of colleges. Mushroom growth of these colleges has contributed in no way to the excellence in standards of education. Many colleges especially self-financed or private non-aided colleges have been opened in rural areas due to non- academic reasons. They have caused more harm than good. Many of such colleges providing education in the field of medicine, technology, pharmacy, teacher training, etc. have turned out to be money minting factories rather than educational centres. The sub-standard quality of instruction and physical facilities provided over there has affected the quality of output in a great way. It has raised a serious question against the creditability of such output in the job market as it ultimately implies wastage of resources. Voicing their concern over this, Acharya Rammurti Committee report mentioned 'the proliferation of universities and colleges has been rather unplanned. Infrastructural facilities are serious and adequate".

Thus, in the view of the authors of this paper, the need of the hour is to curb the growth of such colleges through appropriate legislative measures. One must not forget that unlike primary education, higher education need not be for all. Only those who deserves it and not who just desire it should be

admitted. The ability to cope with the course is vital than the ability to pay for it. Moreover, proper checks are must to see that the colleges maintain the required physical facilities and has quality staff.

The nature of curriculum and syllabus is another important aspect in higher education. This is precisely because all the lofty aims of higher education get translated through the curriculum and syllabus which ultimately gets transacted through the classroom instructional process. The curriculum and syllabus, in order to be effective, has to keep pace with the changes outside the education system. In the modern era of high technology, it simply cannot afford to lag behind the changes in different sectors of economy. It is disheartening to note that although almost everyday we talk about 21st century as we have not been able to bring yet, radical changes in our courses of study. Though one finds some occasional changes it is very often in fits and pecies rather than whole, offering a gestalt way of learning..

Acharya Rammurti Committee commented "it is not adequate if courses and programs are redesigned merely to meet demands of specialization better". In fact, it is high time that the revision of curriculum/syllabus takes place at regular intervals in coordination with the industries. This is the proper way of establishing the University - Industry interface because it would ensure the least mis-match between demands of Industries and Supplies from institutions of higher learning.

Another serious problem in the field of higher education is the problem of unemployment due to unplanned growth of institutions and lack of such courses which are relevant to market requirements. Higher education is not meant for all but only for those who have the necessary aptitude and abilities. However, over the last few years, enrollment has increased much more than needed - especially in general education courses. As per principles of economics, inflation of goods/service leads to a fall in its value and that is exactly what the happened has. Therefore, it is necessary to curb the mushroom growth of the institutions for higher education - especially of general education. Instead, more students should be diverted towards vocational courses which helps them to go for self-employment apart from getting jobs. This is a prime need of the hour as growing unemployment among the youth is harmful at both the levels -- macro and micro. At macro level, it implies wastage of precious national resources (human and material) and at the micro level, it leads to frustration among youth which is like a volcano--silent on the surface but which can burst any time.

One more point that needs to be mentioned with regard to the establishment of some academic/administrative bodies. The NPE, 1986 and its POA recommended the establishment of State Council of Higher Education but in most of the states, hardly anything significant has been done in this regard. Although most of the states have the State Institute of Education or State Council of Educational Research & Training they concentrate on school education and due to the absence of State Council of Higher Education, higher education suffers. Similarly, although we do have an apex body at the national level for educational planning and administration in the form of National Institute of Educational Planning and Administration, very few states have a corresponding body at the state level in the form of State Institute of Educational Planning and Administration. Similarly, the National Council for Teacher Education has been established but its area of operation is limited to teacher education only. We need to form National Council for Higher Education for radical improvements in the field of higher education.

Last but not the least, today higher education faces the problem of finance. It is a daunting task to get adequate amount of resources. The allocation of funds from government is limited, and most of it is spent on establishment expenses and not much is available for developmental work. Barring a few elite institutions, most of them have poor position with regard to physical facilities. Colleges/Universities do not get enough funds from non-governmental sources either due to their inefficiency or lack of support from the community. Authors of the paper would like to submit that it is high time that the universities/colleges strive for mobilizing additional resources from the community to meet their demands. With the era of privatization and liberalization knocking on our doors, government contribution would become still smaller.

Thus, the voyage of higher education in India has been an onward one over the last fifty years. Although the system certain problems faces its achievement, especially with regard to producing highly skilled and trained human power in the field of engineering, medicine, management and, of late, information technology cannot be simply overlooked. Therefore, the authors of this paper would humbly

disagree with the view held by many as quoted in IV Survey of Research in Education that higher education in India today has become useless, serves no purpose and has failed to meet the needs and challenges of the present world.

Authors of this paper would not like to end on such a note of pessimism but they would like to submit that every system, when it works on such a larger scale-especially in a country like India, is bound to face some problems. It is not that these problems are impossible to overcome -- especially those related to resources and quality of education. In fact, the authors would like to express the view that with the changing scenario and winds of globalisation and liberalization in the country, the consciousness for high quality is going to increase among people and through private initiatives more resources would be brought to the institutions. This will inject elements of efficiency and discipline in the system and better coordination between the supply of the institutions and demands of the market.

Education, it would thus be beneficial to both the levels - micro and macro, and can hope to enter 21st century with a stronger and better system higher education.

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Privatization of Higher Education

Vishiesh Verma[1]

Introduction

India enjoys the distinction of having one of the largest Higher Education Systems in the world comprising 223 university level institutions, over 8,500 colleges, 35 deemed to be universities, 12 medical institutions, 33 agricultural universities, 5.5 million students, and 3 lakhs teachers. Every 8th student enrolled in Higher Education in the world is an Indian. The absolute size of enrollment in Higher Education may be gauged from the fact that it accounts for more than 40 per cent of the total enrollment in the developing countries. It is largely financed by State Governments. The expenditure figures of all the states in India on education, culture and science-research put together stand at Rs. 12,000 crores per year. A study by University Grants Commission concluded that keeping a student on the campus costs Rs. 11,800/- in Humanities and Social Sciences, and Rs. 21,640/- in Sciences.

Technically, education beyond 12 years of schooling is known as Higher Education. The general pattern in India is 10+2+3+2. What is to be noted here is that it is the 'pluses' and 'bridges' linking levels that are of crucial significance. Tertiary or Higher Education should not be treated as an appendix or appendage but as a vital constituent of the total education system. It is the level of Higher Education that produces our teachers, administrators, scientists, doctors and technologists. In fact, it is our universities which produce highly skilled manpower needed for the political, economic and social transformation and development of our country.

Wastelands of Higher Education

1. About 88 per cent of students in Higher Education are enrolled at the under-graduate level. Not even one quarter of them are interested in the courses for which they are enrolled nor do they benefit from them. The majority of under-graduates study in Arts, Science and Commerce faculties. The percentage of enrollment in Medicine, Engineering and Law is very small being 1%, 4.9% and 4.3%, respectively.
2. Quantitatively about 40 per cent of the 8,500 colleges are not eligible for U.G.C. assistance as they do not fulfill the minimum conditions that have been provided for infrastructural facilities.
3. About 60 per cent of colleges are in private hands, and they get a major share of their expenses from the government. Some of the colleges receive as much as 95% of their expenses from the government.
4. The standard of Higher Education has deteriorated; because of this the system has failed to develop even the expected traditional skills among students. Only 33 per cent marks are required to get a B.A. or B.Sc. degree; that is one third of the knowledge is required to pass examination. Consequently even the certificates granted by the universities have become suspect resulting in recruitment examinations or entrance tests.
5. Over 8,000 recipients of doctoral degree are available to universities every year but they do not have any meaningful absorption.
6. About 20 per cent of over 17 million educated unemployed are graduates and post-graduates.
7. On an average, 35 per cent of our engineering graduates from the I.I.Ts go abroad every year, despite the fact that each graduate costs the country quite a staggering amount. The UNO report on India records that more than 1,500 million dollars are lost to India due to the migration of skilled personnel to USA, UK, Canada and France.

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Financial Resources of Higher Education

Universities in India were created without a provision for material resources of funds. They look up to UGC for funds but it gets too little which it spends to maintain 19 Central Universities and 54 colleges under its supervision. The extent of UGC contribution towards Higher Education is conspicuous from its share of funding during the 7th Five Year Plan:

a) State Funding — 87.3 per cent
b) U.G.C. Funding — 3.3 per cent
c) Fees — 11.4 per cent

Higher Education was given a special status during the early years of independence. The money allotted for its development out of the total GNP was 3.7 per cent. The share of higher education is given below:-

(i.) First Five Year Plan — 0.71 per cent
(ii) 8th Five Year Plan — 1.24 per cent
(iii) 8th Five Year Plan — 0.35 per cent

The total outlay on all educational sectors has been increasing since mid eighties but the universities are used to getting crumbs received from the educational pie. The grant allotted for the 8th Five Year Plan vouches this:

(a) Elementary Education — 47 per cent
(b) Secondary Education — 18 per cent
(c) Higher Education — 8 per cent

A comparative statement of the contribution towards higher education funds in 1947 and 1992 is given as under :

	National Contribution	Students' Fee Contribution
1947	40 per cent	46 per cent
1992	80 per cent	12 per cent

While the requirements for funds for higher education have increased substantially because of its rapid expansion, the allocation of funds to this sector has declined considerably in recent years. The severe resource constraints on the one hand, and the ever increasing demand for Higher Education on the other, made things worse. During the last five years the budget for higher education has been cut drastically due to an enveloping economic crisis.

Subsidised Higher Education

Indian Higher Education is highly subsidized. The present fee structure has an in-built system of providing huge subsidy to all. The students have been paying too little in the form of fees. At the prestigious Jawaharlal Nehru University (JNU), in 1993, a student paid Rs. 108 for each semester as tuition fees. The rent of hostel room was Rs. 200 a semester ("December, 26, 1993, Times of India").

The main reason for keeping fees low in higher educational institutions was to help the poor families and to promote equity. What has actually taken place over the years is monopolizing of seats available by the well-to-do classes in the society. Students from poor families may not be more than 10 per cent of the total student population. Naturally, the maximum amount of subsidy goes to the 'Haves'. Strangely, the morel 'expensive' the course, greater the subsidy and it reaches mostly to those who need it least.

The fact that the bulk of the expenditure on higher education is utilized by the top 30 per cent of the income groups reflects that our education system particularly Higher Education is highly tilted in favour of the elite classes and is grossly indifferent to the common man. Since the major portion of National Revenue comes from indirect taxes, their burden is spread over masses. Higher Education of the better off sections is subsidized by the poor constituting the majority. Since the majority in India is not only poor but illiterate, the uniform extension of subsidy via nominal fees implies a net transfer of income from the uneducated to those who are in higher education, and as a result of which they would command higher incomes. Therefore, the policy of extending higher educational opportunities with uniform subsidy especially in a situation of extreme of socio-economic inequalities is socially unjust and not equalitarian in its impact.

How can a country with 40 per cent of its population living below the poverty line, 20 per cent living without safe drinking water and 30 per cent living without sanitation facilities afford such a huge investment in higher education? The World Bank reports half of the illiterates in the world (500 million) are Indian and the literacy rate is 52 per cent. In most of the industrial cities of the developing countries, the adult literacy rate is 80-95 per cent while only 42 per cent of Indians in industrialized cities are literate. In Indian villages the literacy percentage is less than 12 per cent.

The statistics indicate that money spent on preparing a graduate can make 66 students pass the primary classes. Despite the contribution of higher education to economic growth being less than primary education and secondary education, more money has been invested in higher education in the past. In a survey of 18 developing countries, it was found that farmers with four or five years primary education produced 13 per cent more crops than an uneducated farmer. Each extra year's education raises the output by 2 to 3 percent.

Higher Education system under government control has remained vulnerable to pulls and pressures from outside forces. Politicization and unionism has wrecked it. The objective for which it was established to provide social justice as mentioned in National Policy of Education, 1986; -- the need to remove disparities and to equalize educational opportunities, especially for those who have been denied equality in the past, is questionable.

Ineffectual performance of most of public educational institutions is often the direct result of non-involvement of performers at almost all levels. Incompetence of the product at the end of a course of study or training, incompetence and irresponsibility of the employee in delivering the goods, be he or she a teacher or an office attendant, a general mood of apathy and indifference marks the work of many public educational institutions. This is perhaps because of the general absence of initiative and zeal in these institutions. The workers are neither encouraged nor rewarded. The curse of the public system is the anonymity of the worker, those craving for identity and recognition are often ignored if not discouraged. Therefore, mediocrity has come to stay in the absence of any proof of competence and excellence in these institutions.

The investment made in education has remained unproductive. The lacunae of the public system of education mean that state enterprises is wrought with many problems which are beyond its control. Nationalisation may bring good to the institutions the performance of which is predictable and controllable. Where education is concerned, human resources have to be handled carefully since these are not easily manageable collectively at national and state levels.

Above all, the state exchequer can no longer bear the burden of public enterprises especially in view of the fact that a limit to taxation has been reached and there is a growing resistance of tax payers to pay for the activities of the state. The monopolistic nature of institutions of higher learning is not in the interest of the consumer nor is it conducive to general welfare.

Need to Privatise Higher Education

It is against this background that this paper seeks to consider privatisation as a desirable alternative. In fact, privatisation of education has already taken place. Witness the innumerable coaching classes claiming to prepare students for all kinds of competitive examinations. Anyone with a computer

starts giving computer education. There are also courses in fashion technology, media, modeling etc. Medical and Enineering colleges flourish in small sub-standard buildings with little or no infrastructural facilities. Private dental colleges and schools of architecture promise lucrative careers. Students flock to these courses in spite of high costs and poor facilities. This presents a striking contrast to the poor class room attendance in universities and colleges.

Privatisation of higher education has caught the imagination of the educators of the country. It has been suggested that the government may, as well, wash its hands off from meeting the financial requirements of higher education and allow the private enterprise to determine the manner in which it should develop.

The new economic policy with its emphasis on decontrol, decentralisation and privatization has further led to the trend towards privatization at the Higher Education level.

The word private in higher education relates to universities and colleges recognized and managed by private trusts and societies or self-financing educational agencies run with utmost commitment to the cause of education. They may, however, be largely funded by UGC/government. There are also universities funded by private trusts and societies.

A private member's Bill for Private Universities was placed on the table of Rajya Sabha during August, 1995. The Supreme Court has also opined in favour of privatisation of education. The 'Private Sector', it pronounced, 'should be invited and indeed encouraged to augment much needed resources in the field of education, than by making as much progress as possible in achieving the constitutional goals in this respect."

There is indeed nothing new about the contribution of private agencies' towards higher education. Even in the United Kingdom to which we continue to look for inspiration, the pioneering institutions of higher education/learning, Oxford and Cambridge, have always welcomed private benefactions. U.S.A's leading university, Harvard, to which state funded, universities of USA look for inspiration and guidance has been sustained and fostered private magnificence from the very beginning.

There is a visible shift from the state supported higher education to self financed system of university education. This is true not only in case of Capitalist market-based economies like Great Britain but also in a country like China where economic reforms have been undertaken quite recently on a very large scale. Even in countries like China, there are reports of privatising universities and raising the fees several times the per capita income of China. In a few instances, universities of Britain also are gradually making themselves financially autonomous by reducing their reliance upon government funding agencies. Student's fees for several specific courses in several countries abroad is almost equal to the actual per pupil cost of providing that education. Thinking on these lines becomes necessary because financing is being linked with efficiency and productivity.

Private enterprise in Indian higher education is not new. Before independence, Christian missionaries rendered yeoman's service for its promotion. Several leading institutions of higher education were in private sector. Fergusson College, Pune was set up by great patriots like Tilak and Agarkar. They were full if idealism to set up institutions for higher education as a national service. They created the tradition or dedication to the cause of education and scholarship. Their life of dedication and self-sacrifice suffused the institutions with higher values of life.

Besides, indigenous societies like Deccan Education Society, D.A.V. Society, Sanatan Dharm Sabha have done a lot in the field of higher education. Educational history stands by it before independence in all metropolitan cities; private colleges out numbered the government. colleges. Even in the field of Science and Technology. universities like Banaras Hindu University created and funded by royal donations gave a lead to governmental institutions. It is true that institutions of higher learning have multiplied greatly since the British withdrawal and they can not be maintained without governmental assistance.

Indian Experiments - In Privatisation

Even in our own country, in the atmosphere of dependence on the state and all the constraints it imposes on spontaneous efforts, Dr. T.M.A. Pai started professional institutions of excellence in the fields of Medicine, Engineering, Science, Dental Care, Nursing Management, Hotel Management and Catering, etc. in his own state. Today the Kasturba Medical College in Manipal is adjudged to be the best in the country. Without depending on government grants, he invited parents to provide capitation grants to provide funds for setting up such institutions for their wards. Manipal institutions attract of wards NRIs from Malaysia, USA, Canada and other countries all over the world. Sufficient capitation fees is collected to reinvest in the development of these institutions. Today, Dr. T.M.A. Pai has earned such a reputation that he has been invited by countries like Nepal, Malaysia and South Africa to set up institutions in their countries which would award degrees given by the Manipal Academy of Higher Education.

There are also some more universities funded with private initiative. Take for example the Birla Institute of Technology and Science, Pilani and Thapar Institute of Technology and Engineering, Patiala. One can give more examples of such institutions coming into being through large private initiative and fund support. The legitimacy that these institutions enjoy has led to their acceptance by the public. However, the dominant questions that automatically arise in the public mind regarding private institutions are of private colleges charging what has come to be known as "Capitation Fee" and private institutions set up in the parallel system. Thanks to the intervention of the Supreme Court of India, even the capitation fee charging colleges are now regulated so far as granting admission on the basis of merit is concerned. Since these colleges charging capitation fee are affiliated to universities, their legitimacy gets confirmed. The negative attitude persists with regard to those private institutions which are outside the formal system.

Private universities may be a novelty in India, but not in the USA with the largest number of universities. For more than 7.7 million students, the USA has more than 3,500 universities while India with 5.5. million students has only 223 universities. The USA has 50 per cent more students. Only 6 per cent of the relevant age group youth of the joins the university system in India whereas it is nearly 50 per cent in the USA Despite the feeling that the universities have over-expanded, the pressure for more opportunities for higher education continues. The state-run institutions, because of paucity of the state resources, can not meet the requirements. Hence, there is ample scope for starting private institutions of Higher Education.

To sum up, privatisation of Indian Higher Education would mean that state machinery may wash its hands off from meeting the burgeoning financial requirements and regulating the institutions of higher education, Market forces would determine :

1. Establishment expansion and closing down of institutions
2. Enrollment in different courses
3. Development of curriculum to suit the requirements of the country
4. Fixing cost of education taking the available resources.

In spite of the above advantages of privatisation, it is being apprehended that it would lead to virtual selling of seats of learning to the highest bidders as it has happened in self-financing engineering and medical colleges charging capitation fees for admission.

Privatisation can not be indiscriminately extended to all the areas of education. Besides only those agencies with proven competence at carrying out educational reforms and are known by their progress and products could be given the freedom to privatise their programs. They must have their financial viability and submit themselves to the regulatory control of the state. To promote effective performance, privatisation is a progressive step in educational reform only on the condition that it does not lead to commercialisation.

The idea of a uniform fee structure has no merit. The standard of education provided in different institutions and the quality of teachers, infrastructure, etc. vary. The fee should vary accordingly. The

doors of such private universities providing quality education should not be denied to students of merit, with the barrier of high fees. Special education loan banks should be set up to extend loans to promising students who would be expected to repay the loans in suitable instalments on completion of their education.

In the present context of shrinking of public subsidy for education, privatization is the only alternative left, and the way to it lies through self-financing eductional agencies run with utmost commitment to the cause of education.

The greatest benefit that privatisation can confer, educationist feel, is an academic and administrative autonomy for effective education system.

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Educational Standards : Recommendations for Improvement (A case study of J&K State)

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Introduction

The education sector has suffered a colossal loss during the period of present turmoil in the State of Jammu and Kashmir. The society has been passing through a period where sheer survival is at the top of all other priorities. Despite all this, the falling standards in the educational institutions can not be justified. The Educational system in the State of Jammu & Kashmir is at its worst stage. It is running under very bad conditions and in a totally wrong direction. It is not benefitting the students, teachers, society and the State. It is always said that education is an instrument of change but it has failed to change the education itself. The same old curriculum continues to be used. The young perceives the gap between the word and the dead and this gap has never been so wide as it is beingexperienced today. This is because of the widening gap between what is preached and what is practised and it drives the youth to talk and try for a change. Education itself needs serious changes and accordingly new roles for Education are emerging. In the expansion of knowledge, technology and human expectations, teaching is no longer a one way affair.

Historically, the Kashmiris have been praised for being the most imaginative people in the world. The treasures of Kashmir have been richly laid with masterpieces of art, writing, painting, handicarfts, music and what not. Temperamentally, the Kashmiris have always been thinkers. They have tried their hand virtually on everything that truly constitutes an intellectual exercise. This land has produced in the past some highly acclaimed sons and daughters such as Gani Kashmiri, Kalhana, Sheikh Yaqub Sarfi, Hassan, Sheikh Noor-ud-din Noorani, Alama Anwar Shah Kashmiri, Lala Ded, etc. who have done their birth place proud in so many fields.

The present quality of education has resulted in the growth of educated illiterates. The fall in educational standards need an in-depth study. It is within the aforestated back drop that the present paper has been prepared.

Causes Responsible for the Deterioration in the Educational Standards

The fall in the educational standards in the State may be mainly attributed to the factors as stated hereunder:

1. The present system of education does not equip the students with the skills of some vocations which could help them earn a living after completing their higher education. The graduates churned out from the colleges/universities are unemployable. It is a bitter reality that they are not even fit for clerical jobs.
2. Diversification of courses is absent in the present curriculum.
3. It has been observed that the University does not provide sufficient research facilities to research scholars engaged in various streams of research thereby depriving them of their basic necessities. The Central Library of the University is almost defunct and does not remain open after working hours which amounts to deterioration of the standards of the library. Thus, the research scholars of the University are compelled to go outside for the collection of their research material. Even experiements are not conducted due to the lack of adequate laboratory facilities. Besides, cancellation of registrations, delay in the correction of research material, change of supervisors.

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4. The syllabi are not fully covered in the educational institutions. It could be easily traced to the less number of working days available in the institutions. Besides this, the students do not study properly whatsoever is being taught in the institutions.
5. Lack of academic dedication and commitment on the part of a segment of teachers and students, of course, has also contributed to the fall in educational standards.
6. The number of actual teaching days in the schools and colleges has phenomenonly shrunk on account of hartals, crackdowns, curfews, etc.
7. The media of instruction in the government Schools continues to be Urdu, Hindi, and Dogri whereas, in private schools the medium of instruction is English. This speaks of the basic difference between these schools. The parents feel that imparting education to their children in English Medium could brighten their career in future in this age of competition.
8. It has also been observed that the shabby, dilapidated condition of buildings housing the government schools contribute also, to the parents prefering English medium schools for their children.
9. In case of certain educational institutions, (for instance, Islamia College of Science & Commerce, Srinagar; and government degree colleges at Pulwama; Shopian; Tral,) it has been observed that or an average, 200 students (average) have only one class room. Because of insufficient accommodation facilities, the students are the ultimate suffers. They are helpless and bound to have their classes in the open sky even under the hot sunshine. They get disappointed when they return to their homes without having read even a single word because of a downpour.
10. A good number of new colleges have been opened at the district level. Though the same are established with the objective of meeting social responsibility of the State, these colleges are still underdeveloped with regard to the requisite infrastructural facilities like laboratories, libraries, class rooms besides the faculty. It has also been officially confirmed that these colleges are still to be affiliated to the University of Kashmir and the University Grants Commission, New Delhi.
11. Officials of the Kashmir University do not dispute the fact that the institutions of professional education are inadequately equipped to conduct their courses in a professional way. They attribute it to several reasons such as mismanagement, red-tapism, wrong priorities and above all the lack of sufficient attention from the central planners towards the professional education in the Valley.
12. A lot of red-tapism is obvious in the offices of J&K State Board of School Education and the University of Kashmir. Local print media, at times, has highlighted that the influential manage to get fake qualification certificates by offering officials gifts.
13. The untimely conduct of the examinations and the unauthorised shifting of examination centres at the eleventh hour, has resulted in the mismanagement of examinations. Besides, the delay in the declaration of results has disturbed adherence to the academic calender.
14. A majority of the students join one course or the other without any proper aim. They just take a degree as the passport to secure a job and for this they even resort to all unfair practices.
15. The University authorities plead that the laxity on the part of certain colleges in respect of filing the Registrations Returns and other particulars of students in time, ultimately result in unnecessary delay in the conduct of examinations. This state of affairs was disclosed by an authority of the Kashmir University.
16. Inadequate arrangements by the University and the Board, on certain occasions, in respect of invigilating staff and security. The lack of adequate security arrangements resulted in the total indiscipline in the examination centres. The examinees got encouraged and even exchanged their answer scripts, continuation sheets etc.
17. The carelessness of the examination bodies with regard to the declaration of results has often been highlighted by the media. A a candidate, if declared failed in one page of the Result Gazette and somewhere else in the same Gazette shows the callousness of the examination authority. as passed that too with merit.

18. As a result of the unfair practices being adopted in the examinations the number of students intake in the colleges has risen to 40,000 during the period 1990-1996 as against a total increase of 5000 students during the 1970s and 1980s.

19. The present practice of holding examinations is fraught with leakage of question papers, faulty evaluation of answer scripts, etc.

20. The evaluation of answer scripts is not done scientifically and honestly. Some of the teachers, as has been observed, do not evaluate these scripts on the basis of content, but on weight - which counts more. As a result of all these practical flaws, the deserving examinees quite naturally feel let down. They are confused and develop a guilty consience for the fault that is not their own.

21. The mushroom growth of private colleges of Education in the State has left hundreds of students in a distressing situation as even after more than two years, their examinations are not held. Under normal circumstances, however, the examinations of these courses are held only after every nine months.

22. In certain educational institutions and in regard to a variety of academic courses, as has been observed, there is a dearth of teachers which has badly affected the academics. It is officially argued that the teacher-taught ratio in the State of J&K is 1:26 (average) which is quite satisfactory as against the national average but there is, of course, in absolute terms of mismatch in the teacher-taught ratio in various educational institutions.

23. The teachers selected by the Services Selection Recruitment Board (SSRB) and the Public Service Commission (PSC) have to usually wait for a long period for their appointments. The Time Bound Promotion Scheme has not helped in meeting the genuine aspirations of the qualified teachers. There is no incentive for higher qualification and the stagnation has been highly demoralizing the teachers working in the educational institutions.

24. Due to the migration of one particular community of teachers the shortage of qualified teachers in respect of various subjects science particularly in the colleges running in the Valley has been experienced. The non-fulfillment of the vacant positions has adversely affected the academic activities.

25. The teachers are facing a great deal of difficulty even in operating their personal accounts like G.P. Fund, Insurance etc.

26. The Education Department does not adhere to the promotion policy so-much-so that the transfer policy adopted by the State is not implemented in letter and spirit. The gravity of the situation is that some influential persons are in a position to manage their transfers prematurely even along with the posts to their home towns while others are notmoved even for decades together which adversely results in their performance and normal functioning.

27. The services of non-educationists rather than the educationists are utilized to administer the Department of education.

28. The indiscipline in the institutions of higher learning has taken place also because of the interference of politicians in various forms in day to day affairs of the institutions. It can be one of the causes for student indiscipline. Every political group, nowadays, wants to have its control on the campus.

29. As regards the admission policy adopted by the schools run either by The government privately, it has been noticed that in almost all the private schools nursery classes are functioning. A child is groomed in such a way that the knowledge gained supplements his education at the first primary level class. The private schools follow a strict admission policy at the primary level so that the cream of the society gets admission to the private schools.

30. The present survey reveals that some of the institutions have a good number of teachers, but inadequate number of students. Again, some subjects are being taught in the colleges, but the Higher Secondary Institutions falling in the vicinity of the colleges have not been allotted such subjects. As a consequence, there is either no intake or a very low intake of students at college level in spite of full-fledged faculty, as for instance, commerce, and other subjects like Philosophy, Geography, Psychology, etc.

31. A steady disapperance of accountability on the part of all concerned has also contributed to the fall of educational standards thereby posing a great threat to the future generation.
32. Parent-teacher relationship in government educational institutions is almost missing and contributes to the poor academic performance Had the parents been conscious of their responsibilities, the teachers would have also felt accountable.
33. There is no denying the fact that the teacher-taught relationship in the State has also undergone a tremendous change. Materialism has struck deep roots in the psyche of most of the teachers and they are more concerned about their own well-being than that of their students.
34. The United Front Government in its Common Minimum Program (CMP) had proposed to allocate 6% of Gross Domestic Product (GDP) towards education, but in the current financial year (1997-98) it amounted only to a 3.7% at central level. The budget allocations in the State of Jammu and Kashmir towards the education sector was 9% out of which 7% is being spent towards the payment of salaries alone. The rest 2%, a meagre amount, has been utilized for expansion, development, construction and research. Inadequate financial allocations towards education sector is also responsible for the poor performance of this sector.

Recommendations for Improvement in Educational Standards

To effect an improvement in the educational standards, the recommendations put forth have been discussed under the captions of specific and general recommendations. Under the former caption, the role to be played by academics, teachers, society and the state respectively has been discussed; the latter deals with the recommendations of general nature. The specific recommendations are discussed hereunder:-

1. It is rightly said, 'if a doctor commits a mistake, it is burried; if an Engineer commits a mistake, it is cemented; if a lawyer commits a mistake, it is filed; but when a teacher commits a mistake, it is reflected on nation". This, of course, speaks of the vital role to be played by a teacher. Education is the mother of all professions. No improvement in the standards of Education is possible in absence of the role to be played by a teacher. A teacher shall take it as a pious mission to impart education to the students. A teacher is required to be honest in his business of academics. He shall be regular and punctual in the institution and apply his best capabilities in discharging his academic obligations. He is required to take every step to cover the syllabi. Since he is a visionary, he should foresee any eventuality which may be a hurdle in imparting education to the students. Besides imparting education, he shall fairly conduct the evaluation and examinations. He must always cope with the knowledge explosion, which is taking place in geometrical progression. Besides curricular activities, a teacher shall engage the students in the co-curricular and extra-curricular activities. He shall be acquainted with and update himself with the modern methodology of teaching the subjects.
2. The students shall also have to be taken into confidence and educated properly about the menace of unfair practices in examinations and what it has actually been costing them. The students have to understand that mere degrees would land them nowhere. They have to face stiff competition from outsiders in every walk of life. They shall be in near future the policy makers and those who have the responsibility to implement such policies.
3. The parents have a very special and pious responsibility to discharge. They shall impress upon their wards, who are in their formative years, that there is no substitute for either hard work or talent. Our youth have tremendous potential to work hard and they also have capability to exploit that potential. It is the duty of the parents and the teachers to ensure that their wards and students do not resort to unfair practices. They also need to see to it that they do not waste even a single day of their school or college. Again, it is the social obligation on people to avail of the facilities of welfare programs in regard to education and extend fullest co-operation to executive agencies.
4. The present Government appears to be concerned about the deterioration in the standards of Education in the State. The higher authorities shall, therefore, conduct frequent inspections to ensure regularity and punctuality of the staff (Faculty as well as supporting personnel). The practices of

attachment of teachers should be done away with. The examinations should be held in an organized manner to curb the menace of unfair practices. The institutions exhibiting poor performance should be identified for remedial measures. The authorities of the education department shall compile a list of the institutions presently occupied by the security forces and the issue be taken up with the Central Government for getting these vacated so that of the students are not affected further. The entire gamut of development with special thrust on education of backward and inaccessible areas of the state shall be taken into account while formulating the plans. An expert committee is required to be constituted to go into the matter and submit its recommendations to effect improvements in the educational standards. Untill such a committee is constituted, the state government needs to take all short-term measures to improve the situation.

The recommendations of general nature are discussed as under :

1. An academic atmosphere is required to be created and should be conducive to an ideal teacher-taught relationship. The courses of study and their syllabii should be completed well in time so that students are not constrained to resort to unfair practices in the examination hall.
2. Accountability of those directly involved in running the educational institutions - the teachers and administrators should be ensured.
3. The teachers should ensure their punctuality in the educational institutions and perform their duties with social commitment. They should try their level best to overcome mismanagement in the Educational institutions.
4. Teachers have to become models of punctuality, dedication, ethics and other virtues. They should command respect among the students.
5. The teachers in the colleges should also be evaluated in terms of their publications in the reputed journals and participation in conferences, seminars, workshops in and outside the state.
6. There is a growing trend of commercialization of education. This evil has eaten up the vitals of our socio-educational fabric and needs to be eradicated. The vigilance and the anti-corruption agencies should be geared up to stop commercialization of education.
7. Stop-gap arrangements in respect of the Principals of Higher Secondary Institutions should come to an end. (The Hon'ble High Court of J&K has also passed a decree to this effect on 29th April, 1997).
8. The anomalies in the transfers of teaches are required to be corrected. A transfer policy should be framed and strictly adhered to.
9. The State Government should implement the UGC rules in toto in order to solve the pressing problems faced by the teaching community.
10. The teachers teaching should be duly posted (under an incentive scheme) to work in far-flung areas for a lesser period the general subjects --say one year's tenure be fixed for them.
11. To monitor the presence of the students in the colleges the attendance statements should be submitted periodically by the college authorities to the concerned quarters.
12. An endeavour should be made to discourage non-serious students who do not attend classes regularly.
13. The meritorious students need encouragement and be provided scholarships, etc. for pursuing their studies.
14. The steps should be taken to check drop-out rate of children in the schools. Redoubling efforts should be also taken to increase literacy rate (preferably female literacy rate). Scholarships to the deserving and free uniforms to the poor boys and girls should be given to encourge them to stay in the institutions.
15. The students should be kept abreast, of the implications of unfair practices in the examinations and their long run adverse effects on them and the society as a whole, through seminars, panel discussions, debates, etc.
16. It is found that there is a lackadaisical attitude of some students towards opting for subjects like Commerce, History, etc. The University authorities should probe the reasons for this and make the

use of print and electronic media for explaining to the student community the avenues and openings in these disciplines.

17. To make up the deficiencies in the coverage of the syllabi Remedial Coaching classes should be taken up by the teachers instead of encouraging private tutioneering.
18. Emphasis should be laid for imparting education of Kashmiri and Dogri languages to to students at primary level also so that they can better appreciate their mother tongue and the rich cultural ethos.
19. In every institution of higher learning a career/course counselling department need be established to advise the students in regard to their admission, proper combination of courses, etc. to be taken up by them so that it can also help them in their career pursuits in the future.
20. Present aims of education, as the educationists view it, are that education should result not only in the material gains, but also in spiritual, intellectual, moral development of a person. The present curriculum being devoid of moral aspect of education, the, majority of youth, after completing their degrees and specializations, fall much below expectation. Therefore, proper balance should be maintained between the development of scientific temper and the values and spirituality of the students.
21. With the expansion of formal education, due importance must be accorded to vocational education as well. The UGC should clear all the proposals regarding the voctionalization of education submitted by various degree colleges.
22. The Department of Physical Education in every educational institution should be revived and strengthened. To revive and improve physical education, some institutions should be adopted as model ones and their performance closely watched for a few years. Similar facilities should be extended to other institutions based on the experiences. thus gained.
23. To effect diversification in the present curricula, the courses of studies like forest preservation, fisheries, sericulture, environment management, etc. should be adopted at first degree level keeping in view the natural vegetation, forests etc. in the State.
24. To rebuild damaged infrastructure in education sector of the J&K State, the Central Govt. has to be generous enough while providing funds for the same.
25. Adequate infrastructural facilities should be provided to the colleges and universities.
26. In view of limited laboratory facilities and infrastructure in the colleges, the number of students in science subjects at degree level should be restricted and the candidates having secured less than the cut off line marks should not be admitted at the college level.
27. Facilities of accommodation like hostel for students and staff quarters should be made available in the educational institutions.
28. Instead of horizontal growth and further expansion stress should now be on the consolidation of the facilities in the existing colleges.
29. Every possible step needs to be taken by the Government to increase the budget allocations towards education sector so that adequate funds are made available for the purpose of development, construction, expansion, research etc.
30. To maintain the sanctity of examinations and foil any attempt of copying, the co-operation of parents and students should be sought. Parents and prominent citizens should also be invited to participate in the deliberations.
31. Honest and collective efforts by the teachers, parents and all other concerned should be taken so that examinations are conducted in a fair way.
32. The present system of examinations encourages rote learning and not learning by understanding. Steps should be taken to broaden the mental horizon.
33. While setting the question papers the learning level of students should be taken into consideration. Mere plagiarisation of the curriculum of other Boards and Universities should not be recommended.
34. A practical way to check mass copying is to set question papers in such a fashion that those students would only be able to attempt who have actually grasped the concepts. Even if guide books, and other matter are also consulted by the students, who wholly and solely rely on mass copying, would fail to write even a single word. Here the author recommends the 'Open book system of examination'.

35. Transparency in the evaluation system should be effected. The examinees should be provided photostat of their answer scripts after the same are being evaluated so that they could see their performance.

36. The examinees should be asked to report at their respective centres of examinations one hour earlier before the commencement of the examination.

37. Superintendents, Dy. Superintendents and supervisory staff indulging in aiding the unfair practices should be dealt with severely and stern disciplinary action should be taken against them.
38. The University, under rules, should establish an examination centre anywhere, if necessary, to ensure the smooth and fair conduct of the examinations.
39. Adequate police personnel including lady cops. should be deployed at the examination centres for the purpose of frisking. They shall be properly oriented for this job to avoid any sort of resistance from the examinees.
40. Police personnel should not enter or interfere in the examination centres which causes reaction and indiscipline among the student community.
41. A complete sanctity of the institutional campus should be ensured by preventing all forms of external interference.
42. Academicians and not non-academicians should necessarily head the department of education.
43. Steps should be taken to bring new educational technology and update the existing one.
44. The educational administrators should try to solve the genuine demands of students to ensure congenial academic environment in the educational institutions. Again, a Grievance Redressal mechanism should be established and the students should be encouraged to come forward with workable suggestions for the smooth running of the institutions, to help control the campus indiscipline.
45. Lastly, Academic Audit at all levels is required to be conducted in the educational institutions.

Conclusion

For the improvement of the standards of education in the State, the people from all walks of life such as teachers, students, administrative as well as academic heads, parents and the men of eminence in the society besides the State have to play their positive role to ensure the clean academic environment in the educational institutions. Likewise, the availability of requisite facilities – infrastural and academic al , redressal of genuine demands of teachers and students would also pave the way to the improvement of these standards. Though at present the situation appears to be gloomy, the author is highly optimistic that if the recommendations put forth in the present paper are practised in its real spirit, the standards of education of course, would improve.

Source Acknowledgement

In the preparation of the present paper the author has mostly relied on three decades of her experience in the department of Higher Education, J&K State. The author, however, had also discussions with various authorities of the University of Kashmir, the State Board of School Education besides the faculty and students in order to elicit their views. In addition to this, some issues of various local and national newspaper have also been consulted.

The Higher Education Finance (Education India: Next Millennium)

N.B. Nimbur and M.A. Konnur[1]

Introduction

The dangers of privatisation of education was sensed by Dr. Adam Smith way back in 1760[1]. But in the modern days specially in a developing country like India, the resources for financing higher education has been very difficult. The increasing burden that the government has to bear in primary education (Government of India) provides the least scope for increased allocation to higher education. The grants and subsidies have proved to be increasingly burdensome. The preparations for (the establishment and regulation of) the Private Universities Bill, 1995 is in progress due to its introduction in the Rajya Sabha. If the bill is enacted by any change, it will change drastically the educational scenario in the country. In particular it would favour imperialism and put the teachers, students, and the society in quandary.

Against this, the present paper attempts to counter the arguments in favour of privatisation of higher education. Divorced from the argument, it is noted that there is a need for drastic change in the present financing policy of higher education in India. In particular the equitable, efficient and alternative methods are evaluated. More specifically, the attention is focussed on (a) the educational vouchers system, (b) the student loans and (c) the graduate tax. The choice has to be made from these, that which suits the Indian situation more. The paper ends with an emphasis on more deeper empirical investigation of the chosen scheme/programme for financing higher education. For convenience it is divided into five parts. Part I describes the education allocations. The problems of privatisation are noted in part II. The alternative methods of finance are discussed in part III. The suitability of self-sustained, and administratively feasible mode of finance is evaluated in part IV. The summary and conclusion are given in Part V.

I

EDUCATIONAL ALLOCATIONS

The expenditure on education is a very important indicator of the importance given to this activity in the country. For a growing country with large proportion of children, needs more and more expenditures. There is a school of thought which argues that, there is a positive relationship between educational expenditure and Gross Domestic Product. The educational expenditure is treated as an investment in human capital, and would help to increase, in turn it the Gross Domestic Product.

Against this, it is quite surprising that the educational expenditure is around 10 to 12 per cent of total expenditure. It would be seen from Table 1 (page 583) that, the elementary education takes away more than 35 per cent of total expenditure on education. The secondary education also comes close to the primary education. The expenditure is around 20 per cent of the total expenditure of the central government.

The higher education and technical education are almost at par in terms of expenditure allocated to them. The expenditure on higher education has been fluctuating between 10 per cent to 12 per cent of

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the total educational expenditure. Measured alternative, it is more surprising that the educational expenditure is less than 1 per cent of Gross Domestic Product[3].

Thus, the allocations to higher education are very low in India. If higher education has to be of any worth more allocations are required, because, it is the direct expenditure in education which contributes towards the development of education.

II

PROBLEMS OF PRIVATISATION

The direct expenditure on education is a stimulant to the indirect expenditure by the students, parents, and society. The private expenditure will grow much more than the direct public expenditure.

There are many problems and dangers associated with the privatisation of higher education. Dr. Adam Smith, the father of economics, has pointed out that the education should be under the control of government. It is an activity which should not be left to the private sector. In this view, it is not possible sometimes for the private sector to invest more on education. This sector is not a production sector with profitability. It is also not desirable on the practical and ethical considerations.[4] There are many problems with privatisation such as, (i) these individuals or business organisations at the helm of the affairs will shift the objectives of education from nobility to profitability, (ii) the skill formation will have highly uneven effects, (iii) the social costs will be under valued under the private sector and (iv) will produce individuals who would be ready to sacrifice even , patriotism in search of profitability. The privatisation will kill in one stroke the very essence of higher education and no wonder may loose sight of educational goals.

Besides, much more than philosophical, there are practical problems with privatisation, such as inequity educational opportunities and consequently the employment opportunities. The privatised education in a country would hinder the progress of the country as against the vehicle of social change (Winkler and Tasyn, 1993).

III

METHODS OF FINANCE

The financing of higher education in a developing country like India has been growing from bad to worse. Because, in the total educational expenditure on higher education, nearly 50 per cent of it is going in the form of subsidy. The grants which are made to the higher educational institutions have created a set of problems of their own.

Further more, in respect of financing higher education in India its attendant problems are that, the government is incurring direct expenditure. Whereas, the private sector is incurring the indirect expenditure. There is the rent seeking by the private sector in two ways. Firstly, it receives huge subsidies (some times cent per cent), secondly, the private higher educational institutions have become the profit machines. The captiation fee is certainly near to doomsday. Thus, the rent seeking by the private sector will have to be halted forthwith if, the education has to be a vehicle of change in India.

Against this backdrop, there are several methods of financing higher education which are noted in the following.

Keeping the problems of paradigm of the country aside the relevance of the paradigm to education is no less important. The experience world over suggests that India has demonstrated that there is Indianness (Takwale, 1997). The Hindustani and Gandhi cap, though apparently not impressive, certainly adds to the comfort of Indians. Besides, Nehru's kurta popular with a larger section of the people.

Russia, and East Europe have already landed into trouble due to the extreme aspects of the paradigm. The socialist but strong nation--China is going from pillar to post to retain the existing paradigm (Edwin, 1997).

The paradigmatical aspects of U.S.A., Switzerland and Sweden[8] are such that they are slowly crumbling. There is the famous scientific view that `Paris is sinking'.

Given these extremes in case of India particularly in the field of education there are some urgently felt needs which are: (a) the subsidies should go, (b) enhancement of education outlays, and (c) the private sector should be complementare to public sector. The private colleges should be under the control of University. There should not be any scope for private universities.

Under such circumstances, to make education a vehicle of social and economic change for every individual, there are three methods of financing higher education in India.[9] Which should minimise the burden on exchequer at the same time prevent education from privatisation (in particular the higher education). The most contemplated methods of financing higher education are :

1) The Student loans;
2) The Educational vouchers and
3) The graduate tax

The efficacy of each method has been given in the following Table (II). The student loan programme is justified on efficiency and equity grounds. Since, this will help to recover part of the costs of higher education from the students. This type of programme could be reformed to improve financial effectiveness through targetting, changing positive real interest rates, designing repayment plans to take account of the likely pattern of graduate earnings and ensuring that the oversight institutions can and will collect. Or governments could explore alternative devices for cost recovery, such as a graduate tax. This approach levies a higher income tax rate on beneficiaries of government subsidized higher education and thus preserves the idea, implicit in loan programmes, of paying for education with future earnings. As part of an effective tax system, a graduate tax could bring in significantly more revenue than traditional loan programmes.

Whereas, a tax funded payments can be made directly to parents or indirectly to the selected schools. Under the education voucher system Edwin, 1997). there is the typical funds-follow-the- child voucher system, in which governments subsidize schools of choice in strict proportion to enrollment, appears to be favourite form or targeted, voucher schemes that give low-income families greater access to private schools (Edwin, 1997).

The graduates tax in which by subsidizing higher education, the government is in effect financing the creation of human capital, produces the future stream of benefits that accrues mainly to graduates in the form of higher earnings.[12] Because of its investment in the graduates' education, the government essentially acquires an equity share in the human capital created and is thus entitled to a dividend from the ensuing income benefits. In the case of a graduate tax, this dividend takes the form of a percentage tax on graduates' income over their working lives. The term graduates tax is somewhat misleading because the tax legitimately applies also to individuals, who attend institutions of higher education but fail to graduate. The tax is a type of user fee, and therefore could accumulate for each year that the student attends a university. The graduate tax rate could also vary with income level, with low-income graduates exempted from the tax. Thus, the government assumes some of the risks of investing in human capital but spreads these risks over the student cohort; high-earning graduates will prove to have been good investments graduates with low incomes or high unemployment, poor investments.[13]

IV

EVALUATION

It could be seen from the above that the educational vouchers system is a highly debated issue. This is true in the case of developing countries where it will destroy the public school system. The system would cover only part of the expenditure or investment incurred on the child. It may even alter the political climate in favour of the voucher receivers. Lastly, as we are concerned about financing higher education, the voucher system is out of context. Because, it applies only to the schools.

The student loan, though interesting in itself, has number of problems and difficulties in a developing country. It is very difficult to recover the loans. There are a number of administrative costs and problems. It involves very long gestation period. There is also the issue of inter-generational distribution of justice; the loans to be given from the money collected from the present generation. The default of loan and mobility of the loan receivers are no less important problems.

Therefore, under the prevailing circumstances the graduate tax is the most favourable method available to the governments of less developed countries. In India for instance, due to the opening up of many vistas, there are many highly qualified persons besides graduates. Therefore, a graduate tax is more preferable. It is justified on the following grounds: (i) there is no problem of recovery, (ii) more graduates in India enjoy voting rights than ordinary citizens, (iii) the graduates have to pay because they enjoy special benefits and higher standard of life, and (iv) it could be designed on the lines of employment or professional tax as is presently collected by the state governments.

TABLE - II

The Merits and Demerits of Methods of Finance in Higher Education

Methods		Merits		Demerits	
I)	Student Loan	1)	To Improve Financial Effectiveness	1)	Problem of Cost Recovery
		2)	Accountability of graduates earnings	2)	Repayment only a small portion
		3)	It brings significantly more revenue than traditional loan programmes	3)	Subsidies, high default rates
		4)	Reduction in government financing burden	4)	High administrative costs
				5)	Loan programmes as expensive as outright grants
II)	Educational Vouchers	1)	Children will exercise option for their entry to school (Public or Pvt.)	1)	It will destroy the public school system
		2)	It may be made available directly to parents and indirectly to the selected schools	2)	It will aggravate poverty and foster segregation
		3)	It will promote school competition	3)	De-recognition of voucher receiving independent

					schools
		4)	Accessible to low-income families in private schools	4)	Much larger investment that societies need to make in low-income children
		5)	It enables schools to offer diverse educational packages	5)	Substantial resources could be made available through voucher system
		6)	To protect children against negligent parents	6)	It could well alter the political climate in their favour
		7)	To internalise beneficial 'externalities'	7)	It could well alter the political climate in their favour
		8)	To ensure equality of opportunity		
		9)	It will encourage sustainable and quality education.		
III)	Graduate Tax	1)	It can generate more revenue than do loan programmes	1)	Graduate taxes are frontloaded but receive return much later
		2)	It is linked with future earnings and not educational costs	2)	Discourages some individuals to pursue higher education
		3)	By economizing on outlays for higher education will improve access to primary and secondary education and provide grants to the poorest by Government	3)	Individuals in lower-income groups often lack meaningful access to educational opportunities, regardless of student loan programmes
				4)	Loan programmes can be expensive enterprises that do not easily satisfy the need for cost recovery
				5)	If default or evasion is greater than 25% it would be inadvisable to implement a loan programme
				6)	In order to reduce subsidies, the interest rate will be at par with inflation rate.

Source: The world Bank "Research Observer", Vol.8, No.1, 1993 and Vol.12, No.1, 1997, the World Bank, 1818 H Street, N.W., Washington, D.C., 20433, U.S.A.

For implementing this scheme there is a need for more detailed research. The income tax collected from those employed in higher educational institutions may be ear-marked for itself, coupled with a graduate tax.

To do away with the problems of financing higher education, and with subsidies, a graduate tax is more conducive.

A graduate tax revenue estimate is an essential step. However, it is hoped that the tax will yield not less than Rs. 500 crores. The earmarking of income tax also would contribute substantially.

Thus to keep a lead in the human capital, India has to recourse to this method of finance which will help to increase educational expenditure to 3-4 per cent of gross domestic product.

V

SUMMARY AND CONCLUSION

The financing of higher education through the public fund is onerous and is a more cumbersome task for the governments. Specially, in a developing country like India, where resources are very meagre due to and long standing internal financial difficulties and problems. However, it is wise to think of alternative methods and devices for supporting and continuing higher education through which the human capital can be increased for the optimal use for the progress of the country.

The alternative methods could be thought of: (i) the student loans, (ii) the educational voucher system and (iii) the graduate tax. These methods have been discussed extensively with their pros and con's if applied to higher educational programmes in India. However, these methods are not free from the possible mismatch to the India's higher educational scenario. In fact the present paper, suggests the detailed study of these methods with suitable modification, if necessary.

Based on this paper the following conclusions may be drawn :

1. The educational voucher system seems highly laudable in the developed countries whereas it may mismatch in a developing country like India.
2. The voucher method is highly inequitable and possibilities for misuse (similar to loans) may not be ruled out.
3. No doubt the student loan system of financing higher education has a number of merits but also suffers acutely due to default, and extreme subsidies on loan and involving very long period for getting back the money.
4. To do away with the problems of financing higher education, to do away with subsidies, a graduate tax is therefore more conducive.
5. A graduate tax revenue estimate is an essential step. However, it is hoped that the tax will yield not less than Rs. 5000 crores. The earmarking of income tax also would contribute substantially.
6. To keep a lead in the human capital, India has to resort to this method of finance which will help to increase educational expenditure to 3-4 per cent of gross domestic product.

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TABLE - 1

OUTLAYS AND EXPENDITURE ON EDUCATION

(Rs. in Crores)

Sector/Major Schemes	Seventh Plan Exp.	Eighth Plan Outlay	Annual Plan 1992-93		Annual Plan 1993-94		Annual Plan 1994-95		Annual Plan 1995-96			1996-97 Outlay
			Outlay	Exp.	Outlay	Exp.	Outlay	Exp.	Out lay	R.E.	Exp.	
1	2	3	4	5	6	7	8	9	10	11	12	13
Elementary Education (Total)	664 (21.19)	2880 (38.69)	284 (29.83)	308 (31.98)	442 (33.74)	386 (31.33)	521 (33.80)	548 (34.25)	651 (35.67)	1443 (57.65)	1203 (54.68)	2159 (63.38)
Secondary Education (Total)	596 (15.59)	1519 (20.40)	209 (21.19)	223 (23.15)	306 (23.35)	303 (24.59)	279 (18.10)	321 (20.05)	409 (22.41)	364 (14.54)	340 (15.45)	381 (11.62)
University and Higher Education (Total)	660 (21.18)	702 (09.43)	150 (15.75)	151 (15.68)	161 (12.29)	158 (12.82)	220 (14.27)	264 (16.50)	244 (13.69)	245 (09.78)	246 (15.45)	238 (07.03)
Adult Education (Total)	313 (10.34)	1400 (18.80)	120 (12.60)	97 (10.07)	177 (14.46)	166 (13.47)	214 (13.88)	205 (12.87)	234 (12.82)	170 (06.79)	144 (06.54)	224 (06.62)
Scholarships (Total)	09 (00.29)	10 (00.13)	02 (00.21)	02 (00.20)	03 (00.22)	01 (00.08)	02 (00.12)	01 (00.05)	02 (00.10)	01 (00.03)	01 (00.04)	02 (00.02)
Book Promotion (Total)	06 (00.19)	08 (00.10)	02 (00.21)	01 (00.10)	02 (00.15)	02 (00.16)	02 (00.12)	02 (00.12)	03 (00.16)	03 (00.11)	02 (00.09)	02 (00.02)
Planning and Administration (Total)	03 (00.09)	32 (00.42)	02 (00.21)	01 (00.10)	05 (00.38)	06 (00.48)	05 (00.32)	04 (00.25)	05 (00.27)	04 (00.15)	04 (00.18)	05 (00.14)
Technical Education (Total)	611 (20.19)	824 (11.07)	170 (15.85)	162 (16.82)	198 (15.11)	193 (15.66)	223 (14.47)	239 (14.93)	254 (13.91)	253 (10.1[illegible])	241 (10.95)	254 (07.50)
Grand Total	3026	7448	952	963	1310	1232	1541	1600	1825	2503	2200	3383
Total outlay and expenditure			8899 (10.69)		10,060 (13.02)		13,822 (11.14)		16,487 (11.06)			19,010 (17.79)

Source : Annual financial statistics of education sector 1996-1997, Ministry of Human Resource Development, Department of Education, Planning & Monitoring, Govt. of India.

Figures given in parenthesis indicates the percentage

Contours of Higher Education : An Innovative Perspective

Prem Saran Satsangi[1]

Vision : An Introduction

There is a Vedic saying 'Yatha Purvasmakalpyat' meaning thereby that act of creation follows the vision. There must, therefore, also be a vision for shaping the contours of higher education which is outward-facing, globally-integrating, sustainably-developing, technology-exploring, partnership- building and information-networking in the current age of information technology revolution which is witnessing the reduction in the cost of transmitting information (telecommunications) by about 20 per cent a year. By the first decade of the 21st century the cost of telecommunications may be almost free! And this means that more and more infomration will be driven into every exchange our economy deals with. That is, goods flowing in, a manufacturing process being applied to them, information being added to them and they flowing out (Span August/September, 1996).

"Education, more education, education made perfect is the panacea for all our country's ills and evils" is a vision given by one of the greatest sages of all times and the Founder of Dayalbagh, which has given rise to an innovative, comprehensive and flexible higher education policy framework applicable to our country. One looks forward to a "Kalpantara" i.e. transformation which will usher in "An Era of Vishwabandhutva" in the 21st century from "An Era of Atom Bomb" in the 20th century through such innovative education policy which follows the vision. It is not going to be mere tinkering with the job but "Being Transformed and Helping Others to Get Transformed", as a testimony to the faith of India in the utlimate goodness and rationality of the world. Such a transformation is possible through "Sattvodreka", that is sublimation of lower feelings to higher feelings in human beings, refining "Tamah" into "Rajah" and "Rajah" into "Sattvah". (Sahitya Darpan of Vishwanath Kaviraj).

This education policy envisages evolution of a "Complete Man" as a mission objective while emphasizing quality as a major objective along with academic objectives, moral and spiritual values and social sensibilities through physical activity, intellectual activity, social activity and higher performance standards. Value education is thus the hallmark of this policy which should help the country rejuvenate the process of inculcation of secular and national values amongst the students.

Recall that Politics + Education = Total Destruction; and Values + Education = All Round Development. One is echoing here the sentiments of Acharya Vinoba Bhave.

Similarly, Science and Technology + Management = Gold Collared Job. Also, Science and Technology + Management + Vocational Work Experience = Diamond Collared Job.

An Innovative, Comprehensive and Flexible Higher Education Policy

The Dayalbagh Educational Institute (DEI) formulated an innovative, comprehensive and flexible education policy in 1975 which has much in common with the National Policy on Education of 1986 and is of lasting value. A Chinese proverb has it that a picture is worth more than 10,000 words. Accordingly, an Interpretive Structural Model (ISM) of the DEI education policy is presented in Figure 1 wtih its associated legend which is explained in the following brief description.

The mission objective of evolving an all round person ("complete man") at the top-most level of the diagramme is supported by major objectives at the next level of hierarchy, vis., *Academic Objectives* - intellectual strength, general knowledge, scientific temper, self-reliance, inter- disciplinary outlook, aptitude, independent thinking, reasoning ability, habit of learning; *Moral and Spiritual Values* -

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emotional maturity, ethical values, simple living, selfless service, humility, truthfulness, dignity of labour, high moral character; *Social Sensibilities* - national character and heritage, tolerance for diversity, national integration, understanding of rural life, classless and casteless society, political system, economic system, social forces and needs, civic sense, respect for rights, duties and discharge of obligations; and quality.

Educational system features in the middle set of hierarchies are designed to contribute to the foregoing Aims and Objectives of the Education Policy. Intellectual activity, physical activity, social activity and key innovative elements of learning (such as high performance standards, fundamental and basic principles and semester-tum-continuous assessment scheme of evaluation) respectively contribute to academic objectives, moral and spiritual values, social sensibilities and quality. Integrated broad based and interdisciplinary approach entails physical, intellectual and social activities and is in turn supported by broad coverge of two major subjects and two ancillary subjects from within and outside the concerned Faculty, most recent trends of thought in Honours level major subject and postgraduate studies, concentration on academics, participation in practice of democratic processes, awareness of Indian constitution and interaction between system and environment. Limited specialisation features involve phsycal, intellectual and social activities and include primarily vocational and technical components in the form of work based training, which is practical training in applied work related to one of the major subjects to create willingness and capacity to work with one's own hands, develop skills and generate a spirit of self-reliance; (notice that this is an alternative which predates by more than a decade the UGC scheme for vocationalisation of the first degree course started only recently); and limited specialisations in natural sciences and social sciences at the first degree level. Rural development sub-system requires physical, intellectual and social activities and consists of agricultural operations and village development components for the study of rural society and economy with a view to fostering a fuller understanding of the rural life and appreciating properly the polity and economy of our country and the social forces at work (and is intended to bridge the division between rural and urban population). Foundation courses, compulsory for all students with exposure to field experience in agricultural field, factories and commercial establishments at the first degree level entail intellectual and social activities through courses on Indian Culture to generate pride in the national ethos so that one may not lose one's moorings; a Comparative Study of Religion to ingrain an attitude of tolerance and a sense of national integration and to inculcate moral and spiritual values; and General Knowledge, Current Affairs and Scientific Methodology to nurture a scientific temper and be aware of contemporary developments. Other integral Components of the curriculum requiring physical, intellectual and social activities are Co-curricular activities such as Social Service (NSS, Scouting and Guiding, NCC) involving village adoption for rural reconstruction and adult and continuing education programme to engender the spirit of brotherhood of man and to facilitate the establishment of casteless and classless society; and Cultural and Literary Activities including Games, Sports and Discipline for all-round development of personality. Learning as an intellectual activity consists of Learning by Observation, Learning by Analysis and Learning by Acquisition of Knowledge. Language teaching for promotion of learning envisages Hindi or regional language as the medium of instruction (which during transitional phase may be English for disciplines such as Science, Engineering and Management), English proficiency and knowledge of one other Modern Indian language.

Organisational gross-root policies at the bottom level of the hierarchy should facilitate realization of educational system at the middle level for achieving aims and objects at the top level as described in the foregoing paragraphs. Organisational policies should ensure student participation in management and organisation of co-curricular activities and cultural and literary activities. Remedial teaching should promote learning. Emphasis on learning should be placed by employing all modes of learning through seminar, experimental work, group activities, paper reading and discussion. formal education in major academic subjects and lateral entry provision (such as from diploma engineering to degree engineering courses), Non-formal Education and Private Education should contribute to learning together with the organisation of infrastructure for learning in the form of Well Equipped Laboratories and Workshops, Science Centre, Hobby Centre, Teaching Aids, Library and Computer Networks. Organisation policies

should provide access to agricultural fields, access to factories, and access to commercial establishments for necessary field experience. Student welfare measures such as free/affordable education and assistance through test should contribute to social sensibilities such as equity. Training and motivation of staff through in-service training and conducive physical climate and mental climate; vocational guidance and counselling service to students; Attachment to university of non-university technical and genral educational institutions in the form of mutually rewarding backward linkage; and special efforts for students from disadvantaged background and weaker sections as well as gifted students should contribute to the achievement of quality.

Total Quality Management in Higher Education

Total Quality Management (TQM) is concerned with the improvement in quality and productivity in an organisation.

The management of higher institutions in India has so far lacked any emphasis on quality of the system or monitoring of its productivity. The time has come when the higher educational institutions, which contribute manpower to industries and other sectors of employment, adopt and practise a total quality management as the management philosophy.

Excellence is a multidimensional pursuit. The five vital dimensions of excellence are -- Quality, Effectiveness, Efficiency, Equity, and Culture. Higher education must be economy-oriented and should be in line with the societal needs of the country. It should not remain merely an exercise of social obligation. The quality and productivity in education is seriously affected by the quality of teachers. Teachers, therefore, must be highly motivated and dedicated. Teachers in higher institutions should perform a triple role -- the role of a teacher, a researcher and a practitioner simultaneously.

The faculty must be encouraged to take up consultancy, R&D assignments and extension work so that they remain practising scientists and technologists and not merely resources satisfied with class-room teaching alone thereby bridging the division between the academy and the world of affairs. The faculty contributions through consultancy and R&D will generate significant fiscal resources which can be utilised for modernization of the laboratories and other infrastructural facilities.

Industry and institutional interaction is presently at a low ebb. This has considerably affected the quality of graduates and has also under-utilized the intellectual work of the institutions. Effective linkages between the industries and institutions are vital for the survival of the country in the emerging national environment. The alumni entrepreneurs can be a most effective link to enhance industry-institution interaction.

All the leading institutions of the country should be covered by a computer network in this age of cyber-space for easy access to each other. The department of Electronics, Government of India, can act as the nodal agency in this regard. The wave of the future is the Internet -- a computer network and "surfing the net" will be a necessary feature in the years to come.

Innovative programmes and vital sectors like energy conservation, transportation and communication must be given special emphasis in institutions. The system should have attractive rewards for meritorious faculty and staff while it should have the capability to weed out the deadwood.

Managers and academicians need to work together cooperatively so as to share each other's excellence and work ethics.

All policy decisions concerning higher education must be effectively implemented and monitored through a time bound programme so that the policy action plans get effectively implemented.

An urgent need is felt in the following key areas: Accountability of the teachers towards the students, peers and the management; Well planned system for improving availability of teachers to students before and after class hours; Constant evaluation of the faculty by the users, i.e. the students and the peers; Curriculum up-dating in line with the socio-economic needs of the industry; Evaluation and review of the institute as a unit.

Based on the evaluation and review sytem, a well defined career management and advancement policy must be evolved for the faculty in order to motivate them to enhance job satisfaction and eliminate stagnation.

Intellectual property generation (patents, technology knowhow) must be given due priority in higher educational institutions. A system of recognition and reward for such contributions should be evolved to promote necessary accomplishments.

Institute should endeavour to be self resource-generating and to achieve that, each library, workshop and computer centre of an institute should be turned into a small ".

ISO-9000 in Higher Education

The globalization of the Indian economy has imposed new constraints on quality certification of Indian manufacturing industries. ISO-9000 and its equivalent BIS-14000 series standards require a planned strategy for their implementation in the Indian context.

Product Quality Assurance involves :

Material Selection
Design
Process Selection
Fabrication and Assembly
Testing
Packaging and Marketing.

Institutionalised Education Quality Control involves:

Admission Criteria
Curriculum Design
Programme Selection
Curriculum Implementation
Evaluation
Employability

The National Assessment and Accreditation Council (NAAC), an autonomous body set up by University Grants Commission, has worked out in detail the guidelines for quality assurance in the various components of the university system. NAAC has proposed a pattern for exploring the dimensions of quality in higher education. Institutional goals and objectives, curriculum design and review, teaching-learning and assessment, research and publications, consultancy and extension activities, organisation and governance, infrastructure facilities, support services, student feedback and counselling, and generation and management of financial resources are the ten parameters covering all aspects of the functioning of a university identified for this quality control. This assessment and accreditation can be conducted by the preparation of a self-study report by the institution, validation of the report by a peer team visit and final decision of the Council based on the report of the team. Each university has to establish an Internal Quality Assurance Cell based on specific guidelines of the Accreditation Council, covering the university central administrative structure, university departments, P.G. centres, affiliating colleges and every component of the university system.

Conclusion

"All over the world it is taken for granted that educational achievement and economic success are closely linked -- that the struggle to raise a nation's living standards is fought first and foremost in the class room" (The Economist, March 29th 1997 : pp. 15 & 16).

Investing in education is undoubtedly the universal panacea to all problems of the day. All thinkers are agreed that in our times, human capital is the most precious form of capital there is. The real resource of any country today is knowledge. Instead of capitalists and the working class, we have today knowledge workers and service workers.

We have 5000 years of civilization behind us -- a civilization which reached "the summit of human thought" in the words of Ralph Waldo Emerson.

Lee Kaun Yew, the wisest statesman of our times, had a point when he said that the main reason why India has not progressed as fast as the other countries of the East, is that all emphasis is on liberty while there is no regard for dedication and discipline. Our education system must inculcate these values.

In a rapidly changing world, the most efficient planning and management strategies are likely to be soft planning approaches, not attempting to determine the future completely, but to steer the whole system towards basic modes of desirable behaviour and allowing the system itself to adjust to minor aspects, according to its own organisation and dynamics. Such a planning approach should include a continuous monitoring of the most important variables, with early detection of tendencies of the system to move towards undesirable behaviour modes. It rather explicitly favours development of the generalized (intelligent) capability of the system to react to new situations, thus increasing rather than reducing the future degrees of freedom. This requires not only technical capability, but more importantly an applied systems way of thinking, which is more holistic, more interdisciplinary and capable of dealing with the behaviour and characteristics of not completely known complex systems.

The third International Maths and Science Study (TIMSS) with 41 participating nations exposes the following myths: "A popularly held view has it that 'opportunity to learn' is the key to educational success -- i.e., the more time children spend on a subject, the better they do at it. Also, the evidence so far is not encouraging for the proponents of this theory ..... .

Next -- and of particular interest to cash-strapped governments -- there appears to be little evidence to support the argument, often heard from teachers' unions, that the main cause of educational under-achievement is under-funding. Low-spending countries such as South Korea and the Czech Republic are at the top of the TIMSS league table. High-spenders such as America and Denmark do much worse". (The Economist, March 29th 1977: pp. 21- 25).

In conclusion, there is an apt quotation from the Mundaka Upanishad :

> "Om is the bow and the soul is the arrow, and that, even Brahman, is spoken of as the target. That must be pierced with an unfaltering aim; one must be absored into that as an arrow is lost in its target"

This that if one is determined to achieve one's mission or objective, one has to concentrate one's mind and effort like an arrow which hits its target.

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TQM in Higher Education and Professional Education

Shrikant R. Kokare[1]
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Introduction

A large number of private higher and professional institutions have been established in India in the recent past, which leads to availability of seats more than in demand. On the other hand, with the globalization of Indian economy, the introduction of the concept of Total Quality Management (TQM) has become a necessity for survival not only for business and industry, but for the educational institutions as well.

So there is a strong need of Total Quality Management in higher and professional education to save our nation from becoming more poor and building a new strong structure of India, of development in the 21st century.

From 1970 onwards, there was a need for the semester pattern in education. From 1980 onwards, there was the need for vocationalization of education higher and and industrial collaboration with higher professional education to achieve theoretical-cum-practical knowledge.

From 1990 onwards, there was a call for autonomy in education. Now in the recent years, we are proceedas towards the 21st century, there is a definite need of Total Quality Management in education to raise our performance from better to the best to excellence.

What is TQM

It is defined as 'Management approach of an organization centred on Quality based on the participation of all its members and aiming at the terms of success through customer satisfaction and benefits to all the members". Quality Management is highly appreciable and desirable. Quality has to be built into the process. It also requires commitment at all levels from the top educational managers to the non-teaching staff and to the students. Quality is everybodys' business. It has to be built into each and every step of effort. In technical sense quality in education depends upon the product (objectives) manufacturing process (Teaching and Learning Process) and skills of workers (staff).

Comparison of an Educational Institute to an Industry

The comparison of a college to an industry (Figure I) shows that the fresh S.S.C. pass-outs who seek admission to the Higher and Professional institutions can be treated as the basic 'work in process' in an industry. TQM can be applied here to improve upon the processes (the education process in this case) and procedure (the methods to improve the education process).

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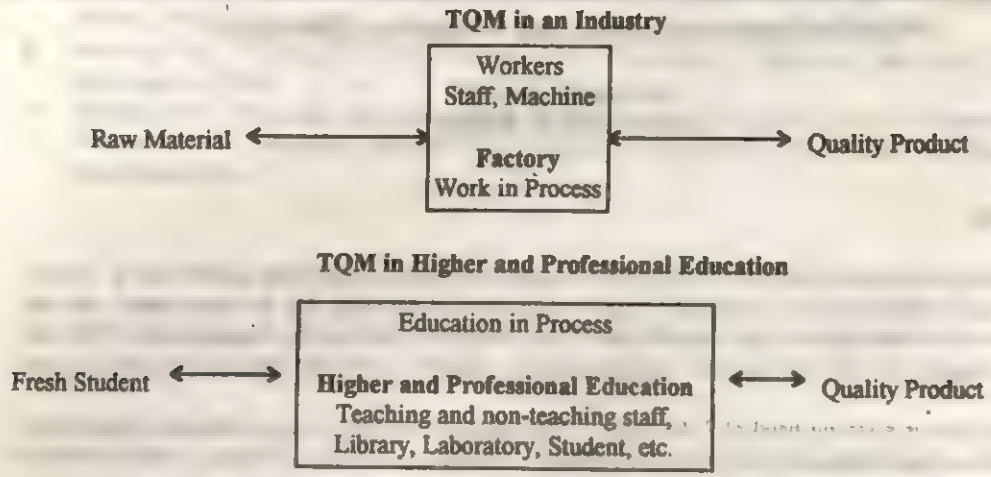

Fig. I

Need of Grading System for Institutions

For industries, there are grading systems at the national and international level like ISO 9000, ISO 9001, ISO 9002, ISO 9003 and ISO 9004.

ISO 9000 (BIS - 14000) : comprises guidelines to use Quality Management and Quality Assurance Standards.

ISO 9001 (BIS 14001) :is a quality system model for use when a contract between two parties require the demonstration of an institution's capability to design, produce and provide the services. The same can be applicable to autonomous institutions like IITs and University departments approved by AICTE.

ISO 9002 (BIS 14002) : is a quality system for quality assurance in production and installation. The same can be applicable in the case of any affiliated institution.

ISO 9003 (BIS 14003) : is a quality systems model for quality assurance in final inspection and testing. The same can be applicable to professional institutions.

ISO 9004 (BIS 14004) : provides quality management and quality system guidelines for organizations to develop and implement a quality system to determine the extent to which each quality system element is applicable. Some grading system should be adopted for our institution also, which would be the first step towards improvement.

The contributors to TQM are shown in Figure II.

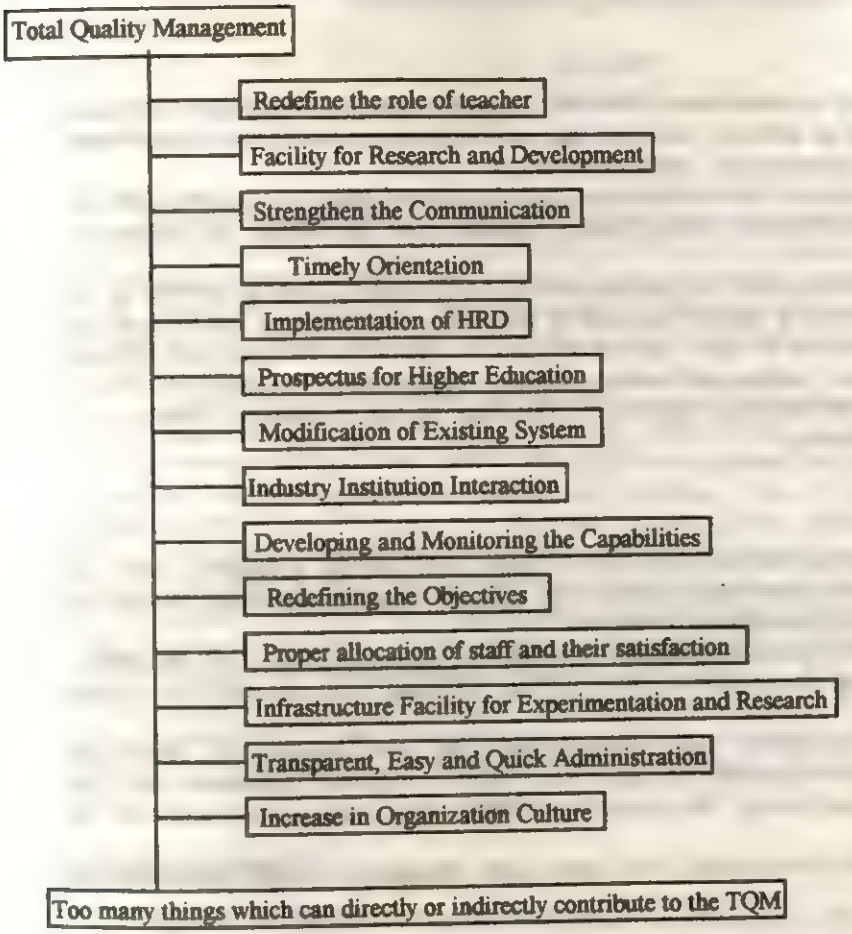

Fig. II

Principals of TQM

Total Quality Management is the only alternative to increase the current status of higher and professional institutions. There are three main principles on which the TQM is dependent:

Creation of an institution where everyone works for the betterment of the institution.

Continuous cost reduction at one side and quality improvement on the other side is a somewhat complex job, but this is the main principle of TQM that can be named as quality management. The exact balance point between Cost and Quality is impossible because that would mean a machine with 100%; efficiency which is practically impossible. So the only thing possible is to reduce the gap between Quality and Cost. As the cost reduces, the expected quality amount increases because both things are time-dependent. As time passes, the meaning of cost as well as quality changes.

Continuous improvement of the system is necessary because it meets the needs and challenges of the Nation. The System does not mean any machine or person but it means each and every factor which are directly or indirectly involved in creation the of a product, i.e. quality output.

Problems of TQM

Stream-wise strength and distribution do not have a research base. The designing of curricula at various levels does not have an adequate theoretical base and infrastructure facilities in terms of time, space, building, materials, equipment, etc. which are not proper.

Due to a lack of autonomy, the curriculum development, education system, testing procedure, etc. are rigid and training-cum-production centres should be started in all polytechnics and engineering colleges.

The technical facility available with institutes can not be fully utilized, and the institutes do not have any well-established set-up to identify the needs of the society. Staff, Student and Methodology constraints are the main problems of TQM. Most of the institutes appoint an inadequate and untrained staff. Inadequate knowledge of teaching and learning techniques, methods makes the quality slow down.

The Multilingual, multireligious, multilevel, multicultural mixing of students creates a lot of burden on the teaching community.

Possible Remedies

Stream-wise strength and distribution of students should be on the basis of research. Either the management or the government should have a survey of job potentials at the local, regional, national and international levels on which the strength can be decided.

There should be some special consideration from sales tax department, income tax department, labour department for training cum production centres can help the student which as well as the teaching community.

With the help of the present status of development and global liberalisation, professional institutes should be decentralised and made flexible to some extent for individual institutions, which can respond to the needs of the local society. The Professional Institute should encourage the trainees for self employment.

Quality in education is rarely found, so the Total Quality Management is highly appreciable and desirable.

Conclusion

In our country, there is good job potential in the rofessional field, if we could only organize the human resources and their talent. For TQM, the master key is **Pick, Place and Promote**. Each one has to pick the problems and place it on the appropriate bench. But placing the problem on an appropriate bench does not completes the duty. One also has to try tacking the promote until it gets solved.

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Issues in Higher Agricultural Education

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Agriculture which forms the backbone of the Indian economy, is the direct or indirect source of livelihood for over 70% of the population. Along with its allied occupations, it contributed 59% to the total National Income in 1950-51, but dropped to 31.6% in 1990-91 (Arya, 1994). According to Proda (1997), even today, the sector contributes approximately 30% to the GDP as compared to 2 to 7% in the contemporary developed world. Agricultural production has kept pace with the population growth rate of 2.0% per annum.

From the status of subsistence farming where everyone produced enough food, fibre and fuel to meet the requirements for himself and his immediate neighbourhood, agriculture has developed into a commerical enterprise (Randhawa, 1989). Though it has modernised still there is great scope in most parts of the country for application of science and technology. Even in those areas where maximum progress has been made, the known technology has not reached more than 30% of the farmers (Singh, 1990). The challenges thrown up by recent development are many and the entire system has to become sensitive to the changed requirements. Higher agricultural education and research now have to focus not only on increased production but on optimisation of various inputs, with a clear understanding of the trends in national and worldwide policies and changes. Randhawa (1989) in his address delivered at CASAS-NAARM, Asia Regional Seminar remarked that the scientists have to learn to synthesize many new and emerging areas of science into action programmes and projects of a pragmatic nature and will have to be consistently looking for opportunities to apply them in not only optimisation of production but in bringing out improvements in the quality of life of the farmers, the farm workers and the general citizen.

Agricultural Education

Agricultural education in India covers formal education from school to the university level as well as informal education, research and training. It is professional education which is an instrument for bringing about desirable changes in rural structures, the economy and standards of living. At the higher level of agricultural education the teaching, research and extension functions are integrated (Singh, 1990). India has a vast network and infrastructure of research and education in agriculture which has hardly any parallel in the developing world. There are 28 agricultural universities, one in each mazjor state, and a number of research institutes, a national centre and all--India Coordinated research projects which have played a vital role in evolving high-yielding varieties and improved production technologies. Higher education improves the critical facilities of the educated and provide an intelligent man-power which can reflect and find solutions to various problems faced by the nation for making it into a modern technical society. Various issues of the present or which may arise in the future and pose a challenge to higher agricultural education, need to be understood properly so as to-give proper direction and thrust to our efforts. These are discussed as follows:

Food Requirements and Productivity - Emerging Scenario

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Food requirements of a country are directly related to its population and purchasing power as well as the food habits of that population. India's population was 230.8 millions in 1901, 690.5 millions in 1981, 840.4 millions by 1991 which has now risen to about 950 millions. It is expected to cross the 1 billion mark by the turn of the century. By 2025, it will rise to 1440 millions. According to Population Reference Bureau of United Nations, while it took 60 years for the population of China to double, it took only 34 years for India to double its population (Rao, 1997). Food production targets cannot keep pace with the increasing of population at such an alarming rate. Carrying capacity of the eco-system has already been subjected to servere stress. Population growth trends and fatigue in country's green revolution have prompted some experts to predict that India will be compelled to again import massive quantities of around 40 million tonnes of food grains in the next three decades.

The critical issue at present is that productivity must keep pace with the increase in population by using available sources. The following strategies can be helpful to face these challenges :

- proper management of land
- proper management of water
- introduction of specialised enterprises where more food can be produced in limited space such as bee keeping, mushroom cultivation, poultry etc.
- prevention of losses due to pests and diseases
- prevention of post-harvest losses

Though the productivity has increased many times through adoption of high yielding varietes, high input oriented technologies and better soil-water management, there still exists a wide gap between the productivity and the actual potential in many areas. According to Raman et al (1989), out of the total geographical area of about 328.8 million hactares, nearly 143 million hactares are under cultivation and nearly 1/6 of the land area has serious limitations for crop production like erosion, aridity, acidity, salinity and alkalinity. But Rao (1997) pointed out that waste land development is a difficult and challenging task because of marginal fertility and lack of water and irrigation. Dry land farming remains and will remain for many years to come as an important component of Indian agriculture. Nearly 70% of the agriculture is rainfed and is prone to vagaries of monsoonal aberrations like draught and flood (Raman et al., 1989). So the focus of research should be on evolving strategies towards ecologically less-endowed areas where present levels of productivity of crops is still low even though cultivated area under different crops is still large. Technologies suitable to rainfed conditions should be evolved and basic physiology and biochemistry of the plant and animal systems under rainfed farming situations should be studied.

Potential source of the main share of food grains is irrigated farming. The area under irrigation has increased much more, but the productivity has not increased proportionately. Water management practices adopted, show low water-use efficiency. There is a huge wastage of water in conveyance, distribution and application which creates pollution problems leading to widespread water logging, development of salinity, leaching of plant nutrients, etc. This effects productivity to a great extent. So there is need for evolving strategies for the efficient distribution of water, efficient conservation of rain water, sustainable harnessing of groundwater through proper structures and increasing efficiency through different irrigation techniques.

Another way to have more food from the limited areas in introduction of specialised enterprises such as bee-keeping, mushroom cultivation, poultry, etc. in addition to conventional farming. Prevention of post-harvest losses as well as losses due to pests and diseases can add a significant amount to the food basket. Singh and Dhaliwal (1996) reported that according to an estimate, almost one half of the potential food production of the less developed countries in tropics is lost due to ravages of insects, plant pathogens, weeds, rodents, birds, nematodes and others. Efficient storage of food grains and low cost technologies for processing and value addition of perishable food items can prevent a major part of post-harvest losses.

The curriculum for higher agricultural education needs to be modified emphasizing more on courses covering management of land and water, specialised enterprises, techniques of dissease and pest

control including integrated pest management, post-harvest technologies etc. Research in the desired fields will enable us to keep the productivity in pace with the population growth.

Maintenance of Nutritional Security

Agricultural scientists have been very successful in increasing the productivity manifold. Farmers adopt new techniques to increase production for economic benefits. This has affected the nutritional security of people. Due to low productivity and economically poor nature of coarse cereals, the farmers shy away from coarse cereals and are drifting towards wheat and rice production (Rao, 1997). But the coarse cereals have better nutritive value to meet the protein - calorie, mineral, requirements and prevent malnutrition.

Keeping in view the nutritional value of coarse cereals, the focus of research should be on increasing producitivity of such cereals. Moreover, these can be grown under rainfed conditions. In addition to this, areas like mushroom cultivation, animal production, fisheries, etc. should also be given proper attention.

Diversification of Agriculture and its Allied Areas

Agriculture has gone beyond crop-raising. It also includes forestry, horticulture, mushroom cultivation, sericulture, fisheries, bee-keeping, rearing of small animals, biotechnology as tissue culture, genetic engineering, food processing, value added processing, marketing etc. Under the prevailing conditions of ecological balance and trends in population only dynamic and diversified agriculture and its allied areas can provide food, nutritional security, sustainability and conservation of resources. Conventional plant breeding methods have contributed greatly to the improvement of crop varities. But various biotechnological and new genetic engineering techniques have widened our understanding of genome structure and development of transgenic plants, with high quality seeds with insect disease resistance, new bio-control agents to insecticides and chemical fertilizers (Alagh, 1997). Intensification of research on all such aspects and such new-coming areas like biotechnology, genetic engineering etc. up and should be the main endeavour of scientists should be an integral part of the curriculum.

Mere production should not be the target of agricultural research. Consumption capacity of the poor should also improve. To have enough and balanced food they must have their income expanded. Efforts should be made to provide farm and off-farm employment in the rural areas. Swaminathan (1983) also remarked that National Agricultural Research Policies will have to be tailored to achieve the triple goal of more foods, more income, more jobs from the available land, water, sunlight and other production endowments. In areas where crop productivity is low, forestry, sericulture, bee-keeping, mushroom cultivation, rearing of small animals can help a lot and more members of the family can be involved. This will help in raising the family income.

Ecological Stability

There is a global awareness that the environment has polluted beyond a point of no return. Eutrophication of water bodies, global warming and green-house effect, ozone depletion and several other factors are affecting the ecological stability. Domestic wastes, industrial effluents, have their significant share in enhancing the problems. Rapid stride in industrial development produces huge volumes of effluents which contain harmful ingradients; this results in degrading the quality of water in canals, rivers, thereby adversely affecting the soil and agricultural produce. Kansal (1996) reported that about 20 million litres per day of generated from domestic and industrial activities waste water in Punjab is disposed as such into some water bodies or the waste land and roads leading to environment pollution. Plants collected from sewage irrigated soil always contain higher amount of heavy metals.

Fertilizers, insecticides, pesticides, etc. are an integral part of the modern society and are essential to increase the agricultural production. But irrigated ecosystems are becoming cess-pools of

atmospheric pollution due to increased use of such inputs. Their entry into the food chain is threatening life. Food commodities meant for human consumption are found to contain residues at an alarming level. According to Kenmore et al. (1984), consequence of intensive use of pesticides is that they may cause they create new pests. This has been the direct result of the differential reduction of natural enemies, both predators and parasitoids as newer high yielding varieties need high levels of fertilizer and pesticide application. Although the pesticides consumption in India is 0.57 kg per hectare which is very low as compared to developed countries like Japan where it is 11 kg/hectare, US and Germany 3 kg/hectare each, the problems caused by their unregulated use are very severe (Singh and Dhaliwal, 1996). According to Kansal (1996), effluents and solid wastes of many industries contain essential nutrients or have properties which can be used to increase the productivity of soils, if the harmful consumption of these wastes are brought within permissible limits after treatment. Effluents from distillary (Singh et al, 1980) and steel industry (Hira, 1989) could be used to reclaim the salt affected soils. Recycling these wastes for maximum benefits with minimum risks to human health and environment is a challenge.

In addition to water and soil pollution, noise-pollution in agriculture is another area of concern which has been a subject of interest only during the last two decades. Studies in this area here initiated during the late nineteen seventies at Punjab Agricultural University, Ludhiana by first measuring the noise levels of agricultural machines like tractors, thrashers, combine harvestors, powered sprayers, engines etc. Studies conducted on limited farm operators of these noisy agricultural machinery reveal that most of them are likely to suffer heavy hearing loss as they are exposed to high noise levels over prolonged durations of more than 40 hours per week (Bansal, 1996). So research should be focussed on evolving strategies for controlling noise by providing better silencers, economical changes in the design of farm machinery etc.

No country in the world--developed and developing, has been able to increase the agriculutral productivity without disturbing the ecological stability. In India the use of different modes is unregulated which causes more harm than good. So courses relating to environment and ecological stability should be an integral part of the curriculum at every level and everyone should be aware of the consequences.

Management of Agricultural-business and Agro-Industry Linkages

According to Swaminathan (1988), land is a shrinking resource and many of the families are without assets. People are shifting from the rural areas to the urban areas in search of employment. So strategies should be evolved to provide farm and off-farm employment in rural areas. The rural areas can provide more job opportunities if rural industralisation based on the local strengths and assets is promoted, thereby filling the gap between rural and urban life. This will attract the graduates and post-graduates from agricultural universities, who are unwilling to move to villages or remote areas. The area of agro-business needs to be developed. Agricultural universities should introduce agro-business as a course in the curriculum. Graduates produced by the universities should be well-versed in analytical and practical skills to meet the present and emerging job market. They should possess adequate skills, attitudes and confidence to start their own business as Arya (1994) has remarked that job opportunities in the public sector are continuously shrinking and one should be able to earn his livelihood through ones own business or private sector.

Technology for Non-conventional Sources of Energy

Every work on earth started only with human form of energy. It was supplemented with animal and wood energy later on. With the onset of mechanisnation other forms of energy from fossil fuel like oil, coal, LPG, or natural gas as well as electricity were added to the list. Industrialization and intensive agriculture has brought a revolution in the energy use and it has become an essential input for production. Energy requirement would continue to increase due to mechanisation of modernization. But the conventional energy resources as diesel, electricity, natural gas, fuel wood excluding crop residues for household cooking are getting exhausted day by day. Moreover, India does not have a large reserve, of

her own energy. Under such conditions, renewable energy sources are the only alternative to the conventional fossil and nuclear fuels. Panesar (1996) suggested that plant oils may become future farm fuels. So there is a dire need to explore the non-conventional sources of energy. Biogas plants, biomass gassifiers, plant oils, solar energy, wind energy, tidal energy etc. are the promising options which need to be explored. Efforts should be made for the perfection and popularisation of technology for such options. Related courses should be an essential part of the curriculum in agricultural universities.

Impact of globalisation and Privatisation on Agriculture

Agriculture is no longer a food saviour with the recent changes that have taken place in the Govt. policies of privatisation, liberlisation and export promotion in line with the international scene after signing of Dunkel proposals, agriculture has transformed into a commercial industry. The whole world has turned into a global village and access to the global market has become easier. So in the near future for global competition and commercialization of agriculture, Indians can have an edge over other countries in capturing the world export market because of its diversified agro-climatic conditions which are helpful in varied and non-conventional agricultural production. India is a top world producer of fruits and vegetables with the production of 39.47 million tonnes of fruits, the second largest producer of inland fish and is heading for the top slot in milk production in the world (Hindustan Times, 1977). 30% - 40% of the fruits and vegetables in the country are damaged and spoilt before they reach the market. Available studies indicate that the share of the primary producer of perishable high-value farm products in the consumer's rupee normally ranges from 15% to 30% - a share which is too low to attract the farmers to generate real surplus of farm produce of desired quality beneficial to the exporters (Maji and Bhattacharya, 1995). In India very little of the farm produce is processed for conversion to value added products, whereas smaller countries are far ahead in this aspect and are earning a fair amount from export. According to Rao (1997), with respect to perishables such as fruits and vegetables less than 20% of the produce is processed after harvest in India, while in developed countries more than 90% of the farm and aquatic products are subject to post-harvest processing. So in order to compete in the global market, there is a need to improve post-harvest technologies. The scientists must evolve low-cost, post-harvesting technologies for high quality value added processing which could be used by farmers at the village level. This will generate employment and bring in prosperity also. The curriculum of the agricultural universities needs a drastic change; keeping in view the impact of globalisation, liberalization and privatisation it should include practical training in post-harvest technology, agro-processing, value addition technologies, proper storage and packaging, marketing, export business regarding non-conventional agricultural products, etc.

Evolving Technologies for Women Involved in Agriculture

Female participation in agriculture is increasing day by day. They contribute significantly to agriculture. Barring ploughing, levelling and irrigating fields, most of the activities, right from field preparation operations to post-harvest operations are either shared by men and women or performed only women. But the technological advances made in the field of agriculture are gender biased and have resulted in the saving of time and energy of men; whereas women are still being relegated to unskilled, time-consuming and manual tasks. Research should be focussed on evolving technologies for women specific operations to increase their efficiency and save them from drudgery, so as to enable them to perform their triple roles of a mother housewife and also bear the burden of farm activities.

Intake of Students of Non-agricultural Background

Another issue before the higher agricultural education is that of intake of students from non-agricultural background. Majority of the students enter agricultural universities after clearing the entrance test. No doubt, they are better in their intellectual capabilities, but they lack the basic knowledge and skills regarding agriculture and its allied areas. This will pose a grave threat to agricultural education in the near future. To overcome this problem such students should clear some deficiency courses in the first one or two years. The period of rural work experience should also be extended. Village extension training already being carried out in the universities is not sufficient to get deep practical knowledge about agriculture and its allied areas.

Conclusion

Higher education and research in agriculture has contributed a lot to the development of agriculture. But the increasing pressure of population and recent developments in the modern context have thrown a number of challenges before it. Agriculture is being developed into a commercial industry. India has a vast network of research and higher education in agriculture, with hardly any parallel in the developing world, must accept the challenges and develop the country into a formidable grain power of the world by increasing production through the optimisation of various inputs, keeping in mind the ecological stability and international standards.

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Higher Education : Need for Developing Entrepreneurial Culture In Institutions

Rajesh Matani[1]

Present Status of Higher Education

The Institutions are generally oriented towards bureaucratic management rather than toward entrepreneurial activities, that is they give priority to examining and modelling activities in large corporations rather than to assessing management styles and problems of medium size, small and new enterprises In respect of science and technology manpower, India is 3rd in the world, but in job potentials and management of human resource we are lagging behind many under-developed countries

Employment : Targets and Achievements

The Eighth Plan had envisaged an average employment growth rate at 2 6 to 2.8 % per annum or 8 to 9 additional million employment opportunities per year. The Planning Commission projections had put the increase in the labour force in 1992-93 at 35 million and in 1997-2000 at 36 million . This is against the persons requiring employment of 94 million during the same period. But according to Labour Ministry's estimates, only 18.78 million additional employment opportunities have been created during 1992-95.

Year	Growth Rate of GDP	Estimated Labour Force	Estimated Employment	Estimated Unemployment
	%	Million	Million	Million
1992-93	4.33	325.4	308.3	17.1
1993-94	4.30	332.2	313.3	18.9
1994-95	5.26	339.2	320.5	18.7
Growth Rate % per annum	4.26	2.14	2.08	---

Source : Ministry of Labour : Annual Reports

Conditions Restricting Graduates to Become Entrepreneurs

In general, the socio-economic environment has not been conducive to the emergence of entrepreneurial talents, more particularly, it appears hostile to new generation entrepreneurs. Unless appropriate policies and programmes are formulated which facilitate the entry of entrepreneurs, entrepreneurship development efforts are not likely to deliver the goods. Though financial agencies claim

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that the liberal financial package available to entrepreneurs is sufficient for the implementation of their projects, in reality, the situation on collaters and securities is quite different. Besides, the cumbersome procedure of filling up of numerous forms and meeting the various obligations makes the potential entrepreneur give a second thought to the project. More often, because of lack of finance, many enthusiastic first generation entrepreneurs have abandoned the idea of venturing into manufacturing world. Follow-up by banks is usually restricted to recovery of dues. The concept of 'counselling' is not prevalent.

Entrepreneurship Development Programms (EDPs) have been initiated to provide training for the educated unemployed, providing self-employment opportunities. But, the results of EDPs have not been very encouraging with the national average in terms of participants who have set up industrial units, placed around just 10-15% of the total number of people trained.

Possible Remedies

The best higher education appears to be Medical education type of 'learn-practice' which prepares entrepreneurs immediately after the basic degree and internship because whatever one learns in the classroom is immediately tested, debated, proved, concretised through excellent lab sessions and practical exposure.

What Universities/Institutions can Contribute

- Fresh bachelors coming from universities are not aware of the needs for industrial relations, personnel handling. Fundamental HRD can be taught to final year students so that when they need they can adjust themselves and can get the best out of the available personnel and resources.
- Institutions have to come up with plans for giving compulsory training in industries after graduation, for a period of about 6 months or one year.
- New subjects like TQM, ISO-9000, Kaizen, Quality Circles, Business Process Re-engineering (BPR), productivity issues have to be included in their curriculum as compulsory subjects for graduation/post-graduation. There has to be a practical approach to these branches.
- Institutions have to plan regular industrial visits for the students along with the professors so that they become aware of the manufacturing atmosphere.
- More and more sandwich courses need to be organized in order to expose the students to new technology trained and train them..
- For general awareness of technical developments, seminar work can be carried out by the students in which they present a new developmental trend in technology/market.
- Institutions to train students in presentation skills, manpower handling skills, cost reduction, energy conservation, career planning, etc.
- Inventory management, capacity utilisation, labour efficiency, cost effective designs, low production costs through cost-effective processes and energy conservation are key success factors for industries. To achieve this, there has to be proper and continuous dialogues/interaction between institutions and industries.

Concluding Implications

Higher Education Institutions must be oriented towards 'wealth creation' in addition to social obligations. Generation of self employment opportunities is the best possible alternative to bring the bulk of our population in to the mainstream of national life. Self-employment is a must for socio-economic development of the rural youth. Higher education is a basic factor which is necessary for the creation and emergence of entrepreneurship. The combined programmes along with motivation brought in through exposure of seminars, industrial visits, exhibitions, technical discussions, 'do it yourself' workshops, etc. will create the atmosphere of bubbling spirits in the youths and teachers and will encourage them to be

good engineers, managers, traders, manufacturers in one's personal life and help the spirit of enterprise innovation and creativity.

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Managing Universities : Today & Tomorrow : India
Governance and Academic Management

Rekha K. Dave[1]

Preamble

Past, Present and Future are related to each other, though it may be any field with reference to education its method and conduct. In preamble of this subject the secret of its origin is there.

Meaning of Education

If we look at it in a broad way education is self culture and self-reformation which concerns human life from beginning to the end. So it is said that, "Teacher is not an ordinary character-beginning and destruction of life is in his hand."

The eternal aim of education is the attainment of the highest limit. In each person God has given some kind of intellect. To fulfill their goal, as per interest and intellect of each student, and to create an interest in the subject many use by their senses. The duty of teacher, society and government are in their subject to keep the interest and achieve it by laborious pursuits. This is solemn affirmation of student. In short education by giving sight and guidance can bring total change in our life.

The Goal of Education

The goal(s) of education are to :

1. Develop the correct attitude.
2. Help in meeting other citizens.
3. Remove prejudices and make us able to understand those who are different from us.
4. Sharpen the sense and develop discretion.
5. Ensure bodily development and morality.
6. Give strength to fight against strong inducement of life.
7. Develop character

For the above goals of education, from the ancient time as history proves, oneness prevails between student and education. Even though change is the best demand of the time, according to the the level of our present university education and what it will be tomorrow, this question demands thinking for its solutions the study of education and administration is necessary.

Method and Nature of Education

The nature of education is revealed by the way of conducting or administration of the system of admission. Admissions which are given on merit or on entrance test results can be said to be a healthy system, but not 100%. Sometimes, during the admission of students, donations are essential. Then honesty is almost nil.

Second thing is selection of subject with distribution of seats. This system has proved to be unjust. Though distribution of seats is according to class and group, sometimes students who are expert

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in the subject are deprived; or his economic condition is good he goes abroad for education and settle there.

Besides different kind of fees, scholarship, procedure of library, annual function, canteen, tour, field/work and election system are also there.

In education, the room, classes, practical, tutorials, home work, writing, discussion, seminar examination and results are included. These kinds of teaching is taught in colleges at the under graduate level. For the recognition of this part of colleges and center, trustees and administrators have to pass through stages. For each college or department hostel admission for outsider is a condition. A student from a remote place and residing in the hostel is often victimised.

Warmth, guidance and relationship should be received from parents, brother-sister, friends, teachers and rector is very essential. The aim of the education is to give a strong and healthy out look of the life.

To decide the standard of classroom one has to looked upon the present number in some technical faculty presence is compulsory. In that most of the students feel bore and it affects their results or they have to surrender before external tution - classes. In which presence is not compulsory some presents students of such faculty behind that canteen is the best thing is kill the time and at the time of exams try to get anorage marks by illegal activities.

Presently so many survey has done on above metters. It transpire some matters is stated below.

1. **Decree of Social Oneness of Students**

At present, the definition of society is narrow. Exchange of views of students with parents, brother, sister or friend is less, with the result of that the child feels depression due to lack of proper guidance. They feel lonely. This happens because of a fall in eternal values.

The best investment of a democratic nation is education. More the sense of nationalism is developed, more the nation is powerful and secure. That is why politics is not necessary in education but education is necessary in politics.

2. **Distance Between Teachers and Pupils**

Generally students can be distributed into two groups.

A. Idealist :

Idealist students whose way of life is narrow, hard, lengthy and the cost of resistance power, it is of a benevolent nature.

B. Materialistic :

Materialistic students take up the path of fast enjoyment; so they become hasty and valueless.

Teaching means to give education to student and to create in him an interest in subjects. Teacher's job is to give strength, healthy insights into life. This work is very tough. It demands broad outlook, deep knowledge of mind, and extreme love for students.

Teacher must be the expert, well- equipped with logical and scientific outlook in their subject.

If the teacher is not trained, the student will feel that he is giving information and data rather than developing the actual understanding of the subject. With the result that education will become a productive activity.

3. Examination Oriented Education and Management

Since there is no condition that the administrator of the university and its affiliated colleges should have a vast experience in educational field or must be an educationist, it becomes difficult to get good co-ordination between education and administrative affairs. Many administraters do not consider students as the beneficiary of education system but consider them as a customer.

The second aspect is the class and group. These could be divided by religion, economics, race, nationality, language etc. Considering the educational view point, there is big problem of medium of language. This matter has become a local, regional, national, inter-national problems so at a lower stage students are not getting the benefit of expert and learned persons and same problem is prevalent in respect of the communication between different international university.

The national aim of education is to teach and use knowledge for propagation of peace at national and international level. At this moment the question arises whether our exam oriented education is helping us to achieve this national aim.

4. Effect of Media

In the present situation the media within the home and outside home are the radio, cinema, TV, video, tape-recorder, magazines and newspapers, attractive presentation which divert the minds of students.

News papers, etc., with different advertisements, pictures, literature involving sexual fantacy for the sake of earning money get kicked out on the basis of moral values like honesty, self-reliance, courage, labour. Whom should be considered responsible for this ? And who should suffer for the same that is the subject to be pondered."

Good literature is available in the universities and colleges which are unused. The habit of thoughtful reading should be created in the students. In the view of Ex. Deputy Prime Minister of Britain, Mr. Morision "I have seen and listen so many interesting programme on Radio and T.V. but nothing in that can be compared with good reading in self-education."

And in the End

For the situation created by recent incomplete educational administration, only the old generation is to be blamed. Old generation has suffered hard situation, poverty, recession, etc. They expect that their children (new generation) should not suffer this pain and they shall get all the facilities, and prosperity in life. Because of the gap of communication between two generations result is the different. Taking lessons from this, we have to make our tomorrow proper.

Looking Towards Future

1. Education is an eternal process -- age, race, discrimination and time should not affect it.
2. In pressuring the value religion has to take the leading part.
3. It is the duty of the leader of society to teach them the education, politics and that by giving them good examples and by self behaviour, show new generation.
4. In primary education of student there should be trained teacher.
5. Instead of making educational system mechanical, it should be made in the way that it makes the student a lover of nature and environment.
6. Equipment which groups use in giving and taking instructions in daily life and its effect should be reduced.

7. Not only the brain works but labour work should be made compulsory.
8. Total independence should be given to University Grants Commission.

"A Time For Vision"[1]

Lewis Perinbam[2]

In our lifetime our planet has undergone one of the most dramatic transformations in its history. It has moved from the aftermath of the industrial revolution to a new era in which knowledge, information and new technologies shape our lives. Yet, despite the scientific and technological changes that have swept the world, over one billion people in the developing countries are engulfed in abject poverty and nearly one billion people are illiterate.

India's educational heritage goes deep into her history and culture. The ancient cities of Harappa and Mohenjodaro reflected levels of economic and social advancement that other countries did not reach for thousands of years. India' contributions to education, science and culture distinguish her among the nations of the world. Two thousand years ago the world's oldest university, Taxila, was located in the Indian sub-continent and attracted students from many parts of Asia and the Middle East.

Today India holds a pre-eminent position in the world of learning and is contributing significantly to the advancement of science and technology. Just over a month ago, on September 29, 1997, India launched its first fully operational satellite from an Indian-built rocket. It is reported that "the 1,200 kilogram, remote sensing satellite will identify mineral deposits and marine resources, assess crop yields, locate independent underground water and estimate damages caused by floods and droughts." What a splendid way to mark India's 50th anniversary as a free nation.

The world faces formidable challenges however, as our planet stands on the threshold of a new millennium. As the UNESCO Commission of Education for the 21st Century (the Delors Report) noted, about one fifth of the globe is illiterate with increasingly dysfunctional school systems where the need is greatest. Furthermore, the numbers are growing - 6.2 billion people by 2000. Countries least able to support the burgeoning populations under 15 years of age have the highest growth rates, are the least equipped to educate, to provide jobs and to assure adequate health and social services. The resulting rapid urbanisation with its attendant exploitation of cheap labour, increased crime, violence and environmental devastation cries out for efficient educational reform and expansion.

The compelling implications for education are recognized by political leaders who understand the critical role of modernised education systems in the advancement of their societies. According to an Australian development agency some 150 million young people, mainly from developing countries, will seek access to tertiary education by the year 2025. Many more wishing to upgrade their skills will strive for admission to post secondary institutions in the countries of the industrialized north. It is estimated that this educational demand will require the construction of one new university every week for the next 20 years. To remain competitive, nations will require preparation for new kinds of employment as well as workforce re-training. Moreover, the continuing pressures for equality of opportunity will require nations to transform themselves into learning societies. Post-secondary educational facilities must be widened to reach those once considered unreachable.

Educating the one billion children lucky enough to find a place in classrooms and the 60 million students at universities and colleges costs approximately $5 to $7 billion dollars. What then would be the cost of :

- Providing literacy education to some 900 million adults world-wide;
- making basic education available to 1 billion children;
- re-skilling, retraining and keeping current a world-wide workforce of over 2 billion people who will most likely be working till 2025;
- enabling some 700 million youth to be economically productive; and
- making tertiary education available to no less than 150 million adults who desire it.

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[1] Address in the Plenary Session on Open and Distance Education

[2] Senior Advisor to the President , The Commonwealth of Learning, Vancouver, Canada

Governments must look beyond conventional approaches to create systems that deliver mass post-secondary education and training comprehensively and inexpensively. Fortunately, distance learning and new technologies have brought this challenge within our grasp. They have given us new tools for human resource development - namely the open learning institutions in the North and in the South. They have been instrumental in bringing access to knowledge to millions who were unreached or unreachable by conventional education systems.

For the first time in human history we possess the means to reach almost every community on our planet in a single moment. The technological revolution is affecting many facets of economic and social relations. The London Economist has referred to the "death of distance" as the greatest force changing and shaping our society. At the Commonwealth of Learning, for instance, our programming achievements in non-formal education through a combination of talent, human skills, knowledge and broadcasting technology include providing functional literacy in Ghana, agricultural extension in Jamaica and teacher education in the Maldives.

In formal education, while the capacity to reach millions through interactive media is not yet here, the efforts of the Open Schools of India and New Zealand and the Open Universities of Pakistan, Thailand, Indonesia, the U.K. and Canada in reaching hundreds of thousands of students demonstrate what is possible. Recent reports by the World Bank, OECD and UNESCO predict that in the next decade distance education will be the most important mode of delivery for learning throughout life and for life but it should not be done in isolation.

To profit from research and experiments in distance education, educational organisations might profitably join forces with other countries' visionaries and collaborate with UNESCO, the International Telecommunications Union and the United Nations Economic Commission for Africa, to promote and support the 1996 African Information Society Initiative. This initiative is a worthy model - it targets the development of an Information Society as the key economic strategy for the African region (Hall, 1997:14). It includes cabinet level policy proposals which would lead to empowerment of all sectors - by 2110 all rural women and children will have access to information through telecommunications and computers. (ibid).

Electronically linking traditional institutions should improve their morale, motivation and academic drawing power as well as their knowledge pool. However, faculty need to be enthusiastic users of the technology and able to serve real needs with it if its value is to be felt. There is a tendency to import inappropriate software and confuse the availability of 'hypertext links with the provision of interactive learning. In reality, exploring unstructured connections between unmediated sources of information could be quite contrary to teaching goals".. (Hall, 1997:23)

The growing demands for more education, the lack of financial and, more importantly human resources, the erosion of quality in education systems, and the demands of the knowledge era for skills are propelling political leaders to crusade for educational reform - including making access to learning an easier process. Those with responsibility for developing skills and knowledge to meet national needs - in the arts, science, business, agriculture, technology and administration - are resorting to new and old technologies for this purpose in both developed and developing countries. Increasingly, educational institutions have taken education to their students regardless of the barriers of space, time, prior knowledge, gender and affordability. They are active in sectors as diverse as literacy programmes (Allama Iqbal Open University in Pakistan) to doctorates in education (The U.K. Open University[3]). Some have only a few thousand students (University of Papua New Guinea) compared to others with as many as 400,000 students (Indira Gandhi National Open University). Some have been in distance education for about 50 years (University of South Africa) and others are brand new such as the University of Sarawak in Malaysia. Their offerings in distance education include courses from family medicine to philosophy, from computer science to art history, from communication technology to English language and literature. However, their effective reach remains inadequate.

Communications and information technologies that are coming into vogue possess enormous potential in educational delivery. Technology, however, does not teach. It enables the delivery of teaching and shifts the responsibility of learning from the teacher to the learner. This requires governments and

[3] YC Maharashtra Open University of India - information addition by Editor.

agencies such as the World Bank, UNDP and the Regional Banks to bring distance learning into their sights, to give it a higher priority and to create an environment in which it can be used effectively. They can do so in the following ways:

- Ensuring that the normally low status of Education Ministries be elevated to be on a par with, e.g., Defense Ministries with the attendant improvement in resources;
- Creating a policy framework for open and distance learning to become an integral part of a nation's education base as has been done in India and South Africa;
- Encouraging minimal standards of good practice for those involved in the delivery of open and distance learning as in Hong Kong - with the needed practical training, planning and independent evaluation;
- Creating pathways for the free and easy movement of credits and credentials across the education system as in Canada; and
- Requiring international donor and lending agencies and recipient governments to demonstrate a commitment by including open and distance learning in the educational planning framework of a country

One of the major challenges is to persuade the educational establishments that distance learning is an opportunity. Universities must be more hospitable than they have been, and better equipped, to integrate distance learning into their systems so that it is part of the mainstream. They can help widen access to education and improve its quality. It will not only strengthen their capabilities, add new dimensions to their programmes but it will also enhance their place in the community by making them more responsive to its needs.

If distance teaching universities and colleges are to succeed in accomplishing the country's most important economic task they must be equipped with teachers who are practical experts. They must have manifest ability to design the structures required for learner-oriented presentation of information, the interactive sessions so crucial to student learning, e.g., in a classroom extended by functioning technology to outlying centres. This means identifying the best of committed teachers and equipping them with facilitating skills.

Well-trained, effective, distance educators also have another role to play. They to be more persuasive and forceful in marketing their capabilities and to connect with other sectors. They must inspire confidence in their worth and become energetic missionaries in bringing distance learning to the forefront of a knowledge-driven era.

There is another reason why distance learning and new technologies are important. India's open democracy is one of her most precious assets. But it remains threatened by her massive poverty and inequalities. It can be sustained and strengthened only if it is founded on an educated citizenry that possesses the knowledge, skills and capabilities to lead fulfilling and creative lives. The cost of a massive onslaught on the ancient enemies of poverty and illiteracy may be high but the cost of ignoring them will be far higher. This places India's educators in the forefront of a movement to banish poverty and ignorance within her shores and to build a future that is worthy of her peoples.

India can play a pivotal role in changing outmoded ideas because it has been a pioneer in harnessing distance and open learning to its progress and development. Its flagship Indira Gandhi National Open University (IGNOU), its seven State Open Universities, 58 Correspondence Course/Distance Education institutions have an enrollment of nearly one million students; while one National Open School and six state open schools have an enrollment of about 250,000 students.

This is an impressive record by any standards. However, more can be done. India must use her experience and talent in distance education to serve her needs for basic, primary and secondary education. Compare, for example, the difference between India, a market-driven economy and her nearest neighbor, China, a labour-driven command economy. While China emphasized primary and secondary education, India expanded its university sector at a rapid rate though at relatively low cost. By the 1980s, about 72% of the Indian labour force 25 years or older had no schooling versus 44% of the Chinese labour force. In other words the proportion of China's workforce with primary education was over three times that of India's labour force and almost twice the proportion of the Chinese labour force had attended secondary school. At the university level, the proportion of India's labour force is about 4 times that of China.

Hence, a major thrust in primary and secondary education will be required if India wishes to maintain her competitiveness globally. (Dhanarajan, November 6-8, 1997: 4-5).

Distance education entities of the future will practice a variety of expanded skills and employ a range of programmes and technologies from franchises at traditional campuses serving the science, technology and business science needs of those able to pay, to the subsidised, specially tailored programmes directed to learning centres during non-working hours. But they will succeed only with a political commitment to serving their nation's learning needs - the necessary financing and infrastructure.

We must acknowledge, however, that distance learning is not a panacea for all the ills facing education. Nor can we ignore that it has not always worked. Sometimes the human and technological infrastructure necessary for its success were not present. It requires both the trained people as well as technology that is appropriate, affordable and accessible. Conventional and distance education must work together and harness their respective capabilities. For they can do together what they cannot achieve working separately.

COL President, Dr. R Dhanarajan, has referred to distance learning as 'the educational wave of the future". It is the means for the developing countries to enable their peoples to advance to higher standards of living and to move forward to the next millennium with confidence. India can be the leader in fashioning a new global community in which illiteracy is banished and the world's peoples can shape their own future. Biblical teachings tell us that 'where there is no vision the people perish". This is a time for vision and no nation is better equipped than India is to provide that vision.

The Virtual University of India

Lalita Rajasingham[1]

Introduction

... the resolute intellect is one-pointed, but many-branched and endlessly diverse are the intellects of the irresolute. Lord Krishna in the Mahabharatha.

When John Tiffin and I conceptualised our book, *The Virtual Class: Education in an Information Society* (Tiffin and Rajasingham 1995) and examined its consequences in terms of virtual schools, virtual colleges, and virtual universities, I saw it as an Asian concept. Yet, it is the West that has picked it up and is making it happen. The Western scientific approach is preoccupied with measuring parts and building things but has difficulty in relating the parts to a unified whole. Much Western theory is dominated by a vision of individual autonomy, action and purpose (Kincaid 1987). Most Eastern thinking tends to be more abstract, relational and holistic. It is the route each takes to achieve the virtual university that is different.

The study of the emerging information society is based at a conceptual level, on ideas, and it is my belief that the idea of the virtual university is more consonant with Asian societies where people can leave consumerism and materialism and enter into the realm of thought and ideas stressing emotional and spiritual convergence in designing virtual educational institutions.

When I began my research in 1986 into problems facing education worldwide, Philip Coomb's 1968 classic *The World Crisis in Education* reflected a universal concern that educational systems were becoming dinosaurs out of syne with societies' needs. He revisited the issue in 1985 and found that in fact the crises had deepened (Coombs, 1985).

All countries face the dilemma in that our educational systems are designed for the needs of the past agricultural and industrial societies. We are today in the transition of becoming information societies, and a new kind of education system is called for to prepare people for the future environment and not the past. Education systems today have reached a watershed. Schools seem unable to respond to the new needs of societies which support them. The growth of the knowledge industry demands new global skills and new literacies in terms of quantity and quality of workers for sustained economic growth in the 21st century (Druker, 1986, Coombs, 1985). Conventional education is also failing to address the need for education to prepare citizens of an information society.

As the crisis in education deepens, rapid advances in communications technologies are coming onstream bringing powerful information technologies based on the merger of computers, telecommunications and broadcast video technologies. This convergence has lead to the develolpment of clusters of technologies that include nanotechnology, artificial intelligence, virtual reality, Hyper Reality and the Internet. From this emerges the Virtual Class (Tiffin and Rajasingham, 1995).

In our book we argue that the virtual class makes possible virtual schools, virtual colleges, and virtual universities that will shape the education of the future.

Why is education out of step with society's needs? Does the problem lie with the way education is administered, the methods of instruction and the content of curricula? These are the issues that developed industrialised societies grapple with as they seek to find a solution.

Because education is communications, our concern is with the extent to which the problem lies with the classroom as a communication system for learning. Like the home and work educational environments, the classroom permits broadband, fully meshed, fully interactive communication that can be multimedia and address all sensory channels (Tiffin and Rajasingham, 1995). The classroom is a

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technology that mirrors how people live and work in an industrial society. It does not reflect how people will live and work in an information society.

Virtual education systems differ from conventional education systems in that they are based on telecommunication network infrastructures rather than transport infrastructures reliant upon rapidly depleting extractive fuels.

The virtual university exists on the Internet. It is a global university accessible to anyone, anywhere, anytime. The virtual university provides the communications environment where the essential factors of education, namely learners, teachers and knowledge can interact (Vygotsky 1978) in telepresence.

Since our book, tertiary education has migrated onto the Internet, leading to an increasing proliferation of Internet-based virtual universities, virtual colleges and virtual universities, mostly in asynchronous mode.

In the attempt to participate in the educational revolution, many institutions tend to transfer their classroom conventions of pre-established body of knowledge and practices on to the information superhighway. They are egged on by commercial interests inherent in the globalisation of education, technology push, rather than pedagogical rationales.

In Western educational systems based on textuality, the printed book represented a stable body of knowledge and access to this knowledge was in the libraries around which universities were created. As we move onto the Internet and the World Wide Web, which are the metaphor for libraries in an information society, we are dealing with information that is dynamic and unstable.

The ongoing global debate regarding virtual universities has I believe reached common ground. We are in a hiatus. At the present, institutions are researching the experience of migrating onto the Internet and face several issues associated with networking and globalisation of education. While powerful clusters of technology are increasingly becoming available, the early adopters in North America, Europe and New Zealand are in the implementation stage In Communications Studies at Victoria University in Wellington we are pioneers in seeking to implement the virtual class and face challenges that are endemic in the process of moving from early adopters to general acceptance.

We seek in our ongoing research to bridge, at a conceptual level, the enhancement of existing universities using telecommunications and the new concept of the virtual university In examining the migration to the virtual university we are attempting to forecast tertiary institutions in the future.

This is a vision of an education system that could become possible in an information society where a virtual network of learners, teachers, knowledge and examples of problems learners seek to solve, come together. No longer does the learner have to go to education; education can be delivered to the learner, interactively, at their own convenience in their location.

The Virtual Class Today

How is it possible to have the effect of a class without the reality of a classroom? A classroom is a communication system that makes it possible for a group of people to come together to talk about something they want to learn, and to look at pictures and diagrams and text that help them understand. The question is, can information technology provide an alternative communications system for learning that is at least as effective as the conventional classroom?

The idea of a virtual class is that everybody can talk and be heard and be identified and everybody can see the same words, diagrams and pictures, at the same time. This calls for the use of telecommunications and computers. At it's simplest, it can be done using two conventional telephone lines at each site, one to link telephones and one to link computers. One line is for sound, and one is for pictures which can be generated on the video display unit (VDU) of a computer. To link more than two sites, a teleconferencing bridging system is also needed. Teleconferencing bridges can be linked to other teleconferencing bridges and theoretically there is no limit to the number of places that can be linked, or where these places are. This is one technology that makes a form of virtual class possible today and there are pilot projects taking place in many countries which show that it can be made to work at least as effectively as a conventional class. Such projects make it possible to think about what a virtual class could be like in the future, as telecommunications systems improve. In time it will be possible to use the public switched telecommunications system to transmit high quality digital sound and high definition video

images. Audiographic conferencing systems are being upgraded to include videoconferencing. Not only is it possible for everybody in a virtual class to talk top each other, they can also see each other. We can expect, through the nineties, a rapid development of teleconferencing technology and attempts by the teaching world to adapt it for educational purposes.

The Virtual Class Tomorrow

The telephone can provide televirtual voices. Teleconferencing can provide the effect of a meeting without people actually meeting and is already being adapted for instruction and called a virtual class. However, a new technology is emerging in the nineties called virtual reality. For the learner wearing a datasuit, helmet and gloves that are connected by sensors to a computer creates the effect of actually being inside a simulated reality. We are beginning to conceptualise it as a new medium and come to some appreciation of its possibilities. Applications of virtual reality are being developed in such fields as architecture, medicine and arcade games. However, its origins were in institutions, in the development of flight simulators for training. It is time to see how it could be applied to education and the development of virtual classes in the fullest sense as wraparound environments for learning where students as telepresneces can see hear, touch and perhaps one day even smell and taste.

The Internet, multimedia and virtual reality are seductive and those searching for a new paradigm of education are examining its potential for learning The potential, the complexity of organisation and entropy, the sheer volume of uncontextualised information and the speed of access confronts the reader in unprecedented ways. The increasingly sophisticated search engines and web browsers entice people to recreate contexts and their own realities.

Technololgy is a double edged sword. Barry Sherman and Phil Judkins in writing about these technologies said:

> ... at their outset, most technologies can be considered neutral. It is we, the people, who determine how, where and for what they are used. And as the world grows more sophisticated, and its parts increasingly interrelated, so these decisions get more difficult and more important. Virtual Reality is the most recent of links in this long chain, and like these other fundamental - changes radio and television included-it will offer us visions of hell as well as the more widely promised glimpses of heaven (Sherman and Judkins 1992: 13-14).

In our research, John Tiffin and I encountered some significant problems related to differences in time zones and culture which are inherent in interacting between countries. Some of the problems we encountered were predictable, such as the fear teachers had to information technology; the lack of institutional support from conservative education management; the need of students to have social contact with people in real time. Other challenges were less expected. In our project, there were and still are intransigent problems in technology itself, and indeed in environmental factors. Last month our virtual students in Taumarunui, 500 kms from Wellington, could not link with the Wellington class for their weekly seminar because their classroom was flooded by a burst pipe during the night and they could not physically get to their computer. Furthermore, as Taumarunui is on the main trunk railway line, every time a train passes by (and this happens about four times a day) there would be a power surge and their link to Wellington would be interrupted. This problem has been resolved with a UPS (uninterrupted power supply) for a generator and the installation of integrated services digital networks (ISDN).

There are other concerns that challenge telelearning pilot projects around the world. What will be the social, economic, political and cultural consequences if the virtual class becomes the dominant mode of instructuion? Woods argues that we are living in dual reality; what is possible now and what will be possible in the near future as information technology infrasturctures being planned now come on line (Woods 1993: 133-4).

Our research shows that for fullscale global universities especially to provided synchronous interaction, today's technology has still a way to go. Electronic support systems for global universities include critical technology and software issues such as:

- A broadcast system for many to many communication that allows students to interact with teacher, content and peers globally in real time, accessible at sufficient speed (for video and graphic transmission) and cost-efficiently;

- System for handling the electronic submission of assignments for marking, and annotating, and providing feedback and amendment;
- Accrediting university-wide system for maintaining student records, transcripts etc.
- System for enrolling, marketing courses, collecting fees and for student welfare procedures.

The most pressing issue today for all governments is the growing disparity between the rich and poor. The dichotomy between North/South, developed/underdeveloped countries used to be mainly an economic concept based in the industrial age on the scarcity value of finite units of exchange of land, labour and capital. The new unit of exchange and hence power in the information age is information, which is infinite. The access to information technology therefore becomes critical to bridge the gap between information rich and information poor.

Carlos Menem, the President of Argentina declared on television in 1992: " The future of Argentina no longer depends on its soil, its climate and its minerals. It depends on the capability of its people, and that depends on how they are educated." Politicians and policymakers worldwide express similar sentiments. Education is becoming the key issue of our times.

Information technology is a democratic tool and the Internet, for example, has the potential for more equitable access to educational opportunity for more people than is possible with currently structured educational systems. It allows anyone, anywhere, to access education. However, information technology reflects the dominant culture of the developers of the technology, predominantly North America and the language of the new media, English.

The title of my paper is The Virtual University of India. Our research suggests different forms that the virtual university could take. One of these is the association of the virtual university with a culture at local levels and global levels. This suggests the idea of a Virtual University of India that at one level addresses local needs in the Indian subcontinent for the development of education at the tertiary level and at the other, the global extension of India culture resulting from the Indian Diaspora of the twentieth century. This enables information societies to "Think global and act local" to quote Buckminister Fuller, the American sociologist.

In examining the creation of virtual universities there are some basic issues that need to be addressed:

Technology

Technology is the enabler for delivery and access. There are two ways of providing asynchronous and synchronous communication. The developed nations have highly developed telecommunications environment and hence virtual universities tend to be cable based. However, in the case of India, her well developed satellite communication system and the emerging low earth orbiting satellites (LEOs) could well be the preferred technology for The Virtual University of India.

One of the challenges that faces all societies is the inroads made by consumerism and commercialism. As prices of computers plummet, they are becoming more powerful and portable. However, as the price of memory falls, sophisticated software always seems to require any extra memory and computer power just to wordprocess, network and access Email and the Web. Although the theory interoperability is becoming greater, increasingly and disturbingly, operation platforms and protocols seem to be incompatible. Some basic calculations show that in New Zealand each computer , a Pentium, with multimedia capabilities costing about $3000, and networked, today costs about $12,000 for maintenance for optimum functionality. The computer is becoming the consumer of human labour and we need to work to keep our computer in action. In this way the new electronic pet, the Tamagotchi that requires 24 hour care and attention should not be anything to marvel at. Our computers are our Tamagotchis!

The English language is the de facto language of information technology both for hardware and software. Machine translation is being developed but is still in its infancy. The Western English-speaking world has an advantage in driving on the information superhighway. However, this can serve as a disincentive for non-English speaking societies seeking strategies to integrate information technology into their education systems. Reminiscent of the 1960s television, there is the prospect of the resurgence of insidious cultural hegemony. The English alphabet has only 26 letters and we are on the cusp of speech recognition. However, with the advantage of the simplicity of English, global communication with, for

example, Asian cultures, for dealing with complex concepts becomes problematic. India, however, with its multiplicity of languages has the capacity of manipulating concepts with two or more languages and has the advantage of designing and operating in many worldviews and many realities. Those who are monolingual can but only have one worldview.

The development of culturally appropriate content needs to be undertaken if societies are not to be prescribed by the values reflected in content developed in different cultural milieus. Today the technology, the conduit such as the Internet is available. The Internet is a global network of millions of computers It has no centre and no centre of control. If developing nations like India want to take part in the advances promised in the global economy and the information age, then it becomes critical that these societies learn the skills of using the technology to develop culturally appropriate content, protocols and techniques. This needs to be part of strategic thinking and policy development, because in the foreseeable future the Web is likely to be the benchmark for measure against any new cluster of technologies and media for global education.

Information technology is changing forever the way we live, learn, shop, work, bank and play. In looking at the impact of global information technologies on cultures some questions come to mind: Will little cultures be swamped by information technology, or will infromation technology give them a new lease of life? Information technology promised secure and happy lives for everybody. Theoretically, however, societies in the 1990s appears to become more unequal and existing social structures are being pulled apart. Why?

I suggest two issues are at play: globalism and mindset.

Globalism

The concept to globalisation, the global economy and the emerging information society is based on the advances of information technologies such as virtual reality technology that can immerse human beings in simulated, mediated reality. The main characteristic of the global environment is the interdependence and interconnectedness of everyone with everyone else using electronic networks. As cross-border visibilities permeate our living space, they impact on local cultures and value systems.

A common social argument against globalisation is that it leads to the breakdown of community and cultural. In 1995 Talbott wrote :

> 'I suspect that every major technical advance in communication since the invention of writing has marked the path away from community rather than toward it Community is, in the first instance, something to be salvaged from information technology, not furthered by it (Talbott 1995 p.74)".

We are moving beyond a world dominated by superpowers and ideologies into a global ecology of cultures. Today we live in a world that is far less centralised and more diverse than at any time in our history. Our challenge is to discern those convergent metaphors and values valid for all humanity, allowing fro the freeflow of people, goods and services to survive and thrive in a more sustainable environment.

In 1967 Guy Debord wrote a radical manifesto titled *The Society of the Spectacle* which argued that cinema, television and newspapers were part of a worldwide hegemony of power where the rich and powerful extended their influence with minimum effort by turning everything into a media event. He revisited his earlier forecasts more than two decades later and said:

> ...There is no place left where people can discuss the realities which concern them, because they can never lastingly free themselves from the crushing presence of media discourse and of the various forces organised to relay it...What is false creates taste, and reinforces itself by knowingly eliminating any reference to the authentic. And what is genuine is reconstructed as quickly as possible, to resemble the false (Debord, 1967).

Education in the use of these technologies and their communications protocols is therefore critical for the development of people and according to Woods:

> ...and development is learning... learning needed by individuals, communities, and nation states to prepare themselves to live in the future (Woods 1993 p.15).

Global issues such as environmental, developmental and educational issues require global problem-solving skills. However, the global economy and its commercially competitive nature will impact on cultures, and the need to 'think global act local" will be the imperative for successful information societies.

It is technically feasible to have a virtual learning environment created by computer-mediated communications where learners can exist as telepresences. In our book we described a protean environment for virtual classes that are already beginning to emerge.

The question is : what are the factors that are likely to determine the development adoption of the Virtual University of India? Perhaps the most significant challenge is the need to change mindsets and shift paradigms.

Mindset

The Virtual University of India will at a local level, provide curricula that are designed to meet the skills needed for India as an information society. At the national level, there will exist several local universities where students will go to learn, socialise and interact within their local languages and cultures. These local universities will at the cognitive level be linked through the Internet to access global curricula.

As India becomes an information society, with its profundity of ideas and thought, she would need to remove the colonial mindset and seize the opportunities just as the United States seized ideas from Europe in the industrial age, and so make a quantum leap into becoming an information society. At the global level India has to capitalise on the global extension of her culture resulting from the Indian Diaspora of the twentieth century. Indian scholars are at the forefront in information technology developments in the United State and Europe. It is critical that students in India's Virtual University be able to link with these scholars as telepresences.

For a successful implementation of the Virtual University, there will need to be paradigm shifts within the following areas:

- National level, where strategic thinking for policy development is needed, both for technology and education.
- Institutional level, as management need to create the vision and develop the strategic steps in order to achieve that vision.
- Pedagogical level, where appropriate curricula are designed and methodology is developed; teacher training and technical support systems put into place so that teachers move away from the 'typing pool mentality' where they had to go to a computer laboratory to gain the skills of using technology, and instead, to integrate technology seamlessly into the curricula.
- Cultural level, where traditional hierarchies are replaced by collaborative teams such as educationists, technology providers, and industry devising mutually satisfactory ways of implementing the Virtual University of India.

Obstacles and Opportunities

The world's distribution of communications resources such as telephone penetration is highly skewed and there is a global disparity in communication power, and therefore a lack of voice is marginalising whole communities. New technologies for communication need to be explored.

India like many developing Commonwealth countries, enjoys a natural, infinite resource: solar power. The concept of solar energy for power generation is not new, but has not been explored as a serious alternative to electricity. Franz Weehuizen from the National Accelerator Centre in South Africa during his recent visit to New Zealand explained that the lack of educational opportunity even at basic level has been a intransigent problem particularly in the sparsely populated rural areas of South Africa. Basic services such as water and power are non-existent. However, there is now a growing effort to use solar power, such as the Telecom Services providers who now use solar power for powering remote telephone sites. Also, point-to point radio links are used instead of copper wire for communication. Perhaps the use of solar energy for computers and for generators should be explored. I suggest that such initiatives could hold great promise for India.

Just as computers, telecommunications and broadcasting technologies have merged, there could be a vital growth industry for solar power that could bring employment opportunities and profit and at the same time provide a cheap energy source to implement the Virtual University.

Another recent innovation may provide an alternative energy solution. This is windup radio and clockwork technology, where three ten second wind-ups allows six hours of computer use.

However, to explore these alternative energy sources so vital for powerful computing, change in mindset and shift in paradigms become critical It is time for collaboration between policy makers, the technologists, the manufacturing industry, business and education.

Conclusion

Everywhere in the developed world, Indians are involved in researching and developing information technology. However, the global extension of Indian culture resulting from the Indian Diaspora is being enjoyed by other nations. Why should India, as we move into the next millennium, feel pressured to follow the Western education model of place-based, book-paced education that is proving to be an inappropriate model for the information society? The need is for effective, appropriate, cost-efficient education that can be accessed by anyone, anywhere at anytime. This is the Virtual University of India.

I conclude with the timeless and inspiring words of Mahatma Gandhi:

> I do not want my house to be walled in on all sides and my windows to be stuffed. I want the cultures of all lands to be blown about my house as freely as possible. But I refuse to be blown off my feet by any of them. Mine is not a religion of the prison house. It has room for the least among God's creation. But it is proof against insolent pride of Race, Religion or Colour.

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Open and Distance Learning - The Cornerstone of Lifelong Learning for the Information Age

Janet Jenkins[1]

Distance Education - The Context

Distance learning is at a turning point - in the scale of its use, in how it operates, and in what it is used for. In the last quarter century or so it has changed beyond recognition. From correspondence courses for significant but relatively small numbers seeking an alternative route to formal or vocational qualifications we have moved on to a methodology which forms the basis of operation of the world's largest universities, the open universities. This enormous expansion has been boosted by the emergence of new information and communications technologies which help to extend educational opportunity to an ever increasing proportion of the world's citizens.

Attitudes too have changed. Distance learning is no longer the last choice for the excluded but has instead gained an important place in national and international plans for educational development. As early as 1986 India's National Policy on Education stressed the importance of the then new National Open University and of distance education. Other countries have similarly recognised distance learning in education policy. More recently international consensus on its value has been reflected in such documents as the Delhi Declaration on Education for All and the European Treaty of Union while UNESCO has developed a policy document on open and distance learning.

Interest in distance learning is not simply because it can reach large numbers of learners. It is also because it can be used for a great variety of purposes. Its potential to deliver new knowledge and skills has caught the imagination of many concerned with lifelong learning. This is reflected in the broad remit often attributed to distance learning in recent education policy statements.

Flexibility, accessibility, openness - these are words we often hear associated with open and distance learning. Reflecting genuine qualities, they indicate recognition of its potential to meet new learning needs. And yet much distance education continues to take place within a relatively constrained and inflexible framework. In practice it is still used mainly by universities - and not just open universities. As in India, many traditional universities across the world offer courses for distance students in parallel to their courses for residential students.

Why has open and distance learning been slower to catch on in other sectors? This is partly a matter of comparison with its rapid spread in the university sector to help meet popular demand for mass higher education. But it is also because of the substantial barriers to access to education, distance or otherwise, for adult learners, such as illiteracy or poor basic education, distance, time constraints, poverty. Distance education in its traditional form can overcome some of these barriers, but - with the partial exception of higher education - does not yet have mass appeal.

Now new delivery strategies, enabled and supported by new technologies, are changing the face of distance education. Traditional tuition by correspondence can be combined with more opportunities for other individual contact and group support. Such interaction has always been a part of good distance education, but is much easier to provide using new interactive technologies.

As open and distance education becomes more flexible, accessible and interactive, its interest as a tool for lifelong learning increases. The scope, content, modes of delivery of lifelong learning for the information age are today the subject of much debate, with strategies still under development, initiatives only just beginning. In the discourse on such matters, open and distance learning has a presence, but not yet a high profile. I want to argue in this paper that it is time to change that, and suggest what that change might look like.

I want to focus on routes to lifelong learning that use open and distance learning in three sectors - basic (school-level) education, higher (high skills) and post-basic vocational education and training. I

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will use the examples to suggest how open and distance education can be used more comprehensively in the future as an integral part of strategy to meet demand for lifelong learning.

Basic education

The use of distance learning for basic education is growing, although it remains contentious. For children it has a long and respectable history, starting with schools of the air - radio and correspondence - for children in the Australian outback and other countries that have large rural terrain and isolated farming families. Such schools continue today, providing models for partnership between parents and children at home and a remote school.

More recently open and distance learning has grown in popularity as an alternative route to formal education for children otherwise excluded from school, frequently because of pressure of numbers on national education systems. Examples can be cited from countries as different as Namibia and Brazil, Malawi and Indonesia, as well as India with its National Open School. In open schooling, new approaches to delivery of learning are increasingly used, such as "multichannel learning" or technology assisted approaches for isolated children.

In the eyes of many, distance education for children is perceived as second-best, an alternative for those who cannot get access to "normal" school. Whether one agrees with these perceptions or not, this rather negative view is paradoxical when we come to basic education at a distance for adults. What is seen as second best for children is presented as a beacon of opportunity for adults who received incomplete formal schooling.

Open schools are indeed a wonderful opportunity for adults, but if designed for young people they are unlikely to meet all their needs and may also use an approach not well suited to their maturity. Most adults who want to improve their basic education have complex needs which may not all lie at school level, and may not fit well with the divisions into subjects and courses that apply to school courses. Many for example may be literate in their mother tongues but novices ("at primary level") in English, a language which they may want to learn as it becomes increasingly important for much employment. Others may have an uneven record of achievement at school long ago - good maths, poor communication skills, for example - while many simply failed to complete primary school. The pattern of need for basic education is thus varied indeed, and much lies at a level below secondary education. To increase the attraction to adults of basic level distance education, greater flexibility of approach, sensitive to their requirements, is necessary. Two contrasting developments point to an imminent breakthrough in this respect.

The age of information technology has, paradoxically, seen renewed emphasis on face-to-face and interpersonal contact as a component of good open and distance learning - the recognition that while most people can do most of their learning at a distance, learners generally do better with a rounded learning support system which includes some personal contact. Increasingly, distance learning systems are designed to accommodate this kind of interaction, both incorporated within courses and associated with the learning environment. With guidance on course selection, thorough orientation to self-study and well-planned support, disadvantaged adults with a low level of basic education can study effectively at a distance. Even totally illiterate people can learn effectively, for example in study groups listening to the radio, with trained group leaders. The importance of interpersonal contact is manifest in the appearance in many contexts of Open Learning or Distance Education Study Centres - places where individuals can meet tutors and counsellors, self-help and tutored groups can meet, and all learners can consult reference material and other resources.

Secondly, new information and communications technology applications in education have given an immense boost to open and distance learning all over the world Their immediate attraction lies in their ability to make more learning available at the same time as increasing interactivity in the absence of a teacher, though for example multimedia applications and electronic communication. But such learning is available only to the minority of adults, those who have easy access to computers and know how to use them.

A network of study centres for distance learners can change the picture. It is becoming the norm to equip study centres for open and distance learning with up to date information and communication facilities. This potentially results in an expanded range of learning opportunities for those with access to

the study centres, improved learning and teaching, and an altogether more attractive learning environment. A study centre for example might at any one time cater for many categories of distance learner - young unemployed adults learning enterprise skills; young school leavers completing secondary-level courses; older employed adults in the caring professions doing work related courses in health sciences; adults learning basic English, information technology or basic number skills; yet others following university level courses. Many would use such centres in familiar ways - for regular meetings with tutors or to find material for their correspondence assignments. But there will be many other uses, which depend on access to information and communications technology. Some would use the Internet to communicate with their teacher or to download reference material. Some would use multimedia course material available in the centre, for example numeracy material on CD-ROM. Some would take part in audio-conferences or video-conference with fellow students in other study centres.

This kind of vision shows how, even in countries which are not yet technology rich, new technologies harnessed with traditional ones can be brought into play to make education accessible to many more people. To provide learning on a large scale for the most disadvantaged remains, still, a major challenge to be tackled over the long-term with well planned initiatives. But study centres can offer flexible accommodation and support for distance learners. The flexibility offered by open and distance learning goes beyond what is possible in any class for adults, offering greater choice of subject, time, pace and place of study. Information and communications technologies enhance this potential as well as underpinning high standards in teaching and learning. Paradoxically, machines (computers) help to transform distance education from being relatively impersonal to becoming more responsive and personal.

Higher level distance education

A second important type of lifelong learning is at University level. In the information age higher level education - skills and knowledge - is essential for balanced development, both at national and individual level We place importance on an ever greater proportion of young people proceeding to university. In several of the most economically successful countries, a third or more school leavers go on to higher education There is no need to stress the immense value of open universities in opening access to higher education for those who cannot gain entry into conventional institutions, or who take up university study as adults. The "mega-universities" of our era - those with over 100,000 students - are all distance teaching universities.

But also of emerging importance is specialist higher level education and training, particularly in high level skills and knowledge applied to work. There has been a recent explosion of distance education courses leading to applied degrees, including many in the newer disciplines of applied sciences and even more in management and related fields. Most of over 100 universities in the UK now offer at least one distance-taught programme of study, and almost all of these are post-graduate courses. Such courses are normally prepared in response to demand, are often relatively small scale, and in their design are sensitive to circumstances of learners.

Higher level open and distance learning is also playing an important role elsewhere in Europe, in the development of the emerging economies of Central and Eastern Europe. Eleven countries of the Baltic region and the heart of Europe have clubbed together in a major programme for economic and social development supported by the European Union and known as PHARE. An important component of PHARE is its multi-country programme in distance education, intended to provide the working citizens of these newly independent countries with an opportunity to gain the new knowledge and skills necessary for change, growth and national productivity. This programme may be the first where distance education is recognised as a key tool for nation building.

This major task is being approached through a long-term strategy. First, the creation of an infrastructure for distance education, then the development of new courses. In the first phase of PHARE, just completed, each country established and equipped a national distance education study centre and trained key staff. Most of these centres are attached to a major university, and in each country there are several other study centres - 40 in allover the 11 countries. This groundwork was undertaken in close partnership with distance teaching institutions in European Union member countries, which provided advice, models and training. A few ready-made courses were imported from elsewhere in Europe, translated, adapted and offered on a trial basis.

In the second phase, just starting, courses are being developed. The European Union has made funding available, for courses which meet strict criteria The courses must be needs-based, usually in one of 12 agreed priority subject areas (these include European languages and teacher education). The model of partnership introduced in phase one is strengthened - every course will be developed by a consortium of at least three partners - two from eastern and central Europe, one from a member country of the European Union. Once developed and tested the course will be available (with necessary translation) to any of the 11 PHARE countries.

The PHARE initiative has several features of interest to other countries. First, distance education courses are being developed to complement those offered face-to-face. Although the programme is regional programme, the choice of course is national, based on specific local need. Each distance education centre in each country decides what courses to offer on the basis of market research. The determinant of choice is demands of the national economy, with initial priority given to higher level education, where suitably trained personnel are in particularly short supply.

Partnership is critical both for course development and for delivery. Partnership operates at several levels, international, national and local Internationally, the key linkages are between peers in educational institutions. Nationally and locally, distance education centres are expected to involve business and major employers who will use the course This should help to ensure a market.

Technology has an important role. In many distance education courses today, computers and associated technologies form an increasingly important part of the teaching and learning system. But in the PHARE countries few people have computers at home, and individual access to computers for learning is not a realistic proposition. The Distance Education Study Centres are equipped with state of the art technology. These centres initially form the basis for access to learning, while wider national distribution of technology builds up.

This may at first sound like putting the cart before the horse - using the technology before the users are ready. But from the point of view of these emerging economies, this is not the case People understand that competence to use information and communication technology is essential today The use of flexible combinations of traditional and new media for teaching and learning, together with access to distance education centres for those who require it, provides a way of leapfrogging over the barrier of individual ownership and providing those learners who want it with experience of using new technology.

The flexibility in learning that accompanies new technology applications is also important. The PHARE distance education programme looks to the long term, to creating a lasting system of lifelong learning for national benefit. But it also marks an important transition The PHARE countries are in the midst of a process of rapid change, moving from a heavily centralised political system to a market economy. That has implications for distance education, just as much as for other aspects of society - the shift from traditional correspondence courses for mass education to distance education which is flexible, personalised, responsive. The focus on the needs of the market is replacing monolithic correspondence education with a different style of teaching and learning.

Technical and vocational learning at a distance

In many industrialised countries, distance education has long been used for training working people. In some - New Zealand and Australia, for example - its use for technical training is long established, with delivery through public distance teaching institutions at national or state level. The UK started later, but developments there over the last fifteen years in open and distance learning provide a stimulating example of how new types of partnership between employers and education agencies, and between public and private funded institutions, are helping to generate new more comprehensive opportunities for people at work

In the 1980s the government launched a programme of vocational and technical training for working adults known as the "Open Tech" programme. While very few of the projects funded under the programme survived, the programme was indirectly very influential. The idea of "Open Learning" spread amongst employers and employees, new forms of organising learning for people in work developed, and there was much innovation in applications of technology to learning. Several major employers turned to it as a major training tool for in-service training. The business sector experimented with the use of new

technology for training, overtaking universities and schools in use of innovative teaching and learning methodology. Open and distance learning using technology caught the imagination to such an extent that several major employers turned to it as the ideal means to provide continuing training to their employees. At the start of this decade, for example, British Telecom, then the national telecommunications agency in Britain, announced that its normal method for in-service training for its employees would be distance education. A further seal of approval came with the 1993 Maastricht Treaty of European Union which cited open and distance learning in the context of vocational and technical training.

From education and training to learning for life

But already we have moved on. The matter of learning for the information society is different from vocational and technical training for the age of industry. Thorough basic education is the acknowledged foundation for employability. But school learning is not enough. Working adults need new, more, different knowledge and skills throughout their working lives. Not just because their jobs change and develop, but also because our knowledge-based society needs better educated people to work productively in it. Education for adults is being transformed into something new - learning relevant to life and work woven together with any necessary completion of school learning. The traditional distinction between education and training is fast becoming blurred. In discourse, as the new agenda for basic education for adults emerges, they are now often bracketed together to signify their close relationship - "education and training" going together like "bread and butter".

A number of major employers in the UK have not only recognised the need for continuous learning amongst their employees but have also themselves taken responsibility for providing learning opportunities. Ford for example has a long-established Employee Development Programme and Unipart, the car parts manufacturer, runs Unipart University for its staff. Rover, the car manufacturer, uses open learning as the basis of its scheme of in-company education and training, open in the sense that employees are offered a wide choice of learning opportunities which may be delivered in various ways, including distance learning. Rover began using open learning in 1982. Now, over 20,000 individuals (about two thirds of employees) follow individualised learning programmes, a very high level of participation in learning. Since 1990, every employee has had access to up to one hundred pounds a year to spend on learning anything they like which is not related to their job. The company recognises the importance of a balance between education for personal development and work-related learning.

Why not launch such a scheme nationally? That is precisely what the new Labour Government in Britain plans to do, with its proposed University for Industry. The University for Industry has been described as "the hub of a national learning network". Emerging as a "virtual" institution itself, it will draw together national resources for learning to meet need in each locality. Whether people are at work or at home, employed, self-employed, unemployed, well-educated or not, the University for Industry will provide opportunities to learn more. It will target particularly those with lower levels of skills and knowledge, and those in small and medium firms less in touch with mainstream learning opportunities or large in-company schemes like Rover's. Its chief (though not exclusive) means of operation is likely to be open and distance learning - the best way to take learning to work.

The University for Industry is at an early stage of planning. A Design and Implementation Advisory Group was established only in August 1997, and since the concept is entirely new, there are many issues to be resolved. The constitution of the group reflects one important perspective, the linking of business and education: the group is chaired by an industrial leader, the Chairman of Motorola Ltd. Planning will be informed by pilot projects. The first was launched in September 1997 in the North East region of England, an area previously economically depressed and with high unemployment, but now being reinvigorated with new employment opportunities. The demand for lifelong learning in this area, which contains a large conurbation as well as an extensive rural area, is potentially great. The pilot project will help to identify the nature of that demand - what courses people actually want to take - and to explore modes of study. One way in which the pilot aims to make learning more accessible through 'Learning World", a learning 'supermarket" in one of Britain's largest shopping malls. 'Learning World", set up by one of the region's universities, Sunderland University, in association with local businesses and other education institutions, is an example of the kind of innovative arrangements that will form part of the national network for lifelong learning that will emerge as the University for Industry takes shape.

Conclusions

The developments I have outlined give some idea of how the scope and methods of distance education are changing, to meet new demands for learning. The initiatives sketched out offer models of how these new open and flexible methods, supported by new technology applications, can widen access to learning. There are no miracle solutions. But in the new open and distance learning, the methods developed for mass education through our open universities are being turned toward widening participation in learning. Starting with need, building on partnership, drawing on national and increasingly global resource, using new technology as the servant of a new teaching and learning, distance education is becoming ever more diverse in its forms. With the learner and learning process increasingly central, "distance" in learning is an issue that may die with the century, giving way to lifelong learning "open" to all.

Global Education : Some Issues

S. Gopal[1]

India has registered remarkable progress in various sectors such as agriculture, industry, commerce, transportation, communication, health care services, and science and technology. However, we are today faced with a substantial fraction of our population living below poverty line with illiteracy and unemployment reaching endemic proportions. Nevertheless, India is one of the developed countries in so far as its intellectual infrastrucure is concerned. While rapid advancement in science and technology has been the major influencing factor in reordering the world in the last 50 years, the same factor would further precipitate the Indian paradox. The globalisation movement would also contribute to the prevailing anamolies. To meet the challenges of the existing and changing scenerios, one of the most effective strategies available would be education. The role of education is greater today, since it has to concentrate on total literacy on the one hand and on the other hand computer literacy and technical literacy to cope with a changing world.

No doubt, the structure and nature of the economic order in future will be increasingly influenced by market forces, which is mainly governed by technology. In this technological era, even wealth is measured mainly in terms of knowledge-based systems. Intellectual property will be primary under this condition.

Following the world trends of liberalisation and globalisation, international interaction and cooperation would increase along with greater competition for resources like qualified manpower, information and technology. Communication and information technology would be the new forms of capital and source of manpower Along with regional and international cooperation, the competitive advantage of a nation will be determined mainly by the quality of human resources. And the quality of human resource is determined by the output of the educational system. As such, education is all set to become the main instrument for development and transformation.

Technological advancement, globalisation, and changes in the socio-political climate would demand a different and specific type of education and skill formation Evolving an appropriate education and skill formation system is essential for sustainable and prosperous nation-building. It is also realised that nations or states are not built by economic growth alone, and even economic growth is not possible without investment and rapid progress in the social sector, particularly in health and education.

However, we must remember that education is not merely producing unemployable degree holders, it is not merely information. It is the formation of the mind; it is an exercise to make it more cautious, creative and innovative. It includes moral development. If moral development is neglected, greater technological development and economic growth may not lead to welfare. Hence, there is a need to integrate culture and spiritual growth with science and technology advancement Knowledge and skill formed in such a system would be resource for sustainable development.

India has a literacy level of 52% which is very low even when compared to a highly populated country like China, which has 78 percent literacy, South Korea with 96 percent, Thailand with 93 percent and even Burma with 80 percent literacy. Except Kerala no other state of India has such a high rate of literacy. Kerala has achieved 94 percent literacy among men and 86 percent literacy among women. With such a vast neglect, it would be a stupendous task to evolve an education system to produce work force, to handle the internationally competitive technologies of the future in the industrial and agricultural sectors.

Since Independence, India has developed a large infrastructure to strengthen the education system. In higher education, the system has grown enormously. In 1950-51, there were only 28 universities and 750 colleges which has increased in 1995-96 to 224 universities and 8210 colleges. The enrolment of students in higher education was 3,96,745 in 1950-51, which has increased to about 62 lakhs in 1994-95. The number of teaching staff in university colleges was 14,291 in 1965-66, which has gone

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up to 64,847 in 1995-96. During this period, the teaching staff working in affiliated colleges increased from 70,385 to 2,24,446. This is the largest system of higher education in the Commonwealth countries and the second largest in the world.

Efforts were also made to diversify the educational process by introducing various new courses. The National Adult Education Programme (NAEP) was promoted in 1977 as an important educational programme. In the sixties, distance education through 'correspondence course' was started. Open learning systems were strengthened by developing mass media and open universities.

Recently, in an effort to match the needs and resources of learning society and technological society, new concepts like continuing or life-long education, higher education for all, borderless education and global education have emerged. All these represent the alternatives to the present traditional systems which suffers from various limitations-funding, administrative, both at macro-and-micro, levels and failed to produce required manpower.

Distance Education (DE) has been a much demanded form of education which is becoming very popular. Its importance has been recognised by policy makers all over the world. In India it has been popularly known as 'Correspondence Education' and 'Distance Education'. By synthesising the various definitions of Distance Education, Desmond Keegan noted the following characteristics of distance education :

1. It separates the teacher and the learners during the process of learning. There is no face to face education in the traditional sense;
2. It expects much in learning of preparing learning materials and in the provisions of student support services;
3. It is supported by the use of technical media, print, audio-video or computer;
4. It provides for two way communication;
5. In DE, people are usually taught as individuals and not in groups; and
6. DE exibit many industrialised features.

All these features of DE suggest that it could be an ideal model for global education.

Formal education is very costly. Hence expansion on a large scale becomes difficult. Even if it is provided, there are sections of society which cannot take advantage of it. Despite the fact that Universities have expanded significantly, the pressure on more opportunities for higher education continued. Moreover, it is reported that, in India only 6 percent of the relevant age group join the University system, whereas it is nearly 55 percent in the United States. Regional differences have to be noted before the global pattern can become truly standardised.

Whether the present education system is relevant to the social needs is another important question. In the changing scenario, many opportunities need to be provided for continuing and extension education to update the skills and knowledge of the working people. The conventional education system may not be in a position to provide this facility.

Deterioration of the standard in the quality of education is another serious problem of this sector. Education community should have a real regard for scholarship.

Hence, as an alternative model to democratise higher education, distance education has emerged as a popular non-formal system to provide answer to the problems of access, equity, relevance, quality, flexibility and cost-effectiveness, it being open in its approach, capable of serving educational needs of adult learners and offering learning facility at home or work place. Overseas students can also be attracted through which we can export higher education.

Distance Education Technology

Distance education is said to be a multi-media system. In distance education, counselling, radio and television broadcast, Audio-Video counselling, computer based information and use of developed communication technologies should supplement the print materials. Adoption of such multi-media assisted inputs to bridge the distance between the student and distant learning institutions can make distance education more socially acceptably. As a substitute for face-to-face class room teaching, these technology support media-mix services are termed as Student Support Services (SSS), which is the essential component of this system.

The first generation of technology in distance education started with using 'mailable' materials and audio-video cassettes. Education through 'air' (broadcasting and telecasting) was refered to as second generation aids. The third generation of technological adoption in distance education was computer-based education using software packages, CD-ROM, multimedia and Internet. The remarkable development in computer based technologies have promoted learner-centred learning systems. Technologies of the immediate future are two way audio-video (video conferencing) and virtual classrooms may be the beginning of the fourth generation. These advanced technologies of education have been contributing significantly to the globalisation of open learning processes.

The beginning of educational technology in India may be traced back to the year 1932, when AIR started offering programmes for schools. In the beginning, the main objectives of radio programmes was to educate the masses. It was only in 1967 that a commercial channel was introduced on radio. Even television was introduced originally in the country with the main objective of using it for educational purpose, in 1959. Education television (ETV) was found to be very effective in improving the academic performance of students. Consequently, after 1972, ETV servies were expanded in the country. Advanced Satellite technology for TV and radio network facilitated to begin Satellite Instructional Television Experiment (SITE) in 1975. Later in 1983, INSAT for education project began. UGC has initiated countrywide classroom (CWCR) programme, by telecasting the higher education programmes since 1982. It has also established education media research centres (EMRC) and audio visual research centres (AVRC) for training and production of softwares in 1984. The Consortium for Educational Communication programme (CEC) was established in 1994 to enhance the media activities.

Information and Library Net Work (INFLIBNET) project was launched in 1991. Now, the Information Superhighways facilitates the rapid transfer of information on a global scale. The NICNET, a satellite based government information network (1977), National Resource Data Management System (NRDMS), the National Information System for Science and Technology (NISSAT), the Education and Research Network (ERNET) and other information sources and networks have been established. All these advanced education technologies help is not restricting the site of learning only to the premises of education institutions but expanding it to the work place and even to promote the globalisation of open learning process.

In India, the first Open University was started in Andhra Pradesh (1982). Later the Indira Gandhi National Open University (IGNOU), one of the biggest Open Universities in Asia, was established in 1986, which now offers more than 39 courses to about 4 lakh students and provides cost-effective and quality education. Now there are six State Open Universities in the country. More important than the number is to make use of advanced technologies by integrating it with the lifestyle and to provide access to higher education to a large segment of our population.

Conclusion

To plan for the future, one should look back into the past experience. Past experiences educate and make us more cautious to move further with improvement in standards of living. In the changing scenerio, the issues related to education sector such as its role, objectives and the type of education needed, have to be analysed to evolve an appropriate educational model.

Economic globalisation requires more extensive knowledge and training in order to cope with the changing world set up. The world's changing environment will bring revolution in the international and national social order, skill revolution and management revolution Under these conditions, one can imagine the type and need in human resource development for multicultural interaction, and the task of education system in its promotion.

In developing countries like India, the role of education in national development is more valid today than was before. It has to attempt total literacy on the one hand and computer and technological education on the other hand to compete in the newly changing world setup. At present, with the globalisation and information society movement, the important questions facing us in human resource development for global interactions are (a) what skill do we need to cope with the future and (b) what types of education are demanded ?

Obviously, the higher education model has to be modified. This suggests to evolve an alternative supplementary model of education to the constitutional model. To make the higher education system more productive, the following suggestions may be considered :

1. Provision of higher education has to continue as collective effort by public (Government), by private initiative and by business corporations, without compromising with quality. Also, there is a need to go with a mixed model of both formal and open learning systems.
2. Cost-effective and quality services should be delivered.
3. There is a need to develop a model of mixing both 'equity' and 'excellence'.
4. Under distance education programme understanding the market, need assessment, identifying the target groups, designing the products appropriately and mode of delivering them are most important issues.
5. Internationalisation of distance education programme should be undertaken, but only after comprehensive planning and adequate preparations.
6. Ideas and techniques borrowed from outside must be assessed and modified before they are adapted in our country.

The New Learning Environment : A Global Perspective

Hemlata Talesra[1]
Nalini Pancholy[2]

Distance education has to come as an effective mode of imparting education It has to accept the idea of 'openness' in the system and effective didactic communication with the learner Acceptance of these diversified objectives of imparting education to masses and meeting individual needs of every learner for learning up to his optimum level has made the system much flexible. It provides optimum scope for the learner to best utilise all his learning faculties, make it fully reflective of a style of education that is actually needed for those who cannot afford to join regular/formal education institutions and those who would like to phase out their studies. Distance mode of learning is ready to absorb everything that is needed to meet the growing educational requirement of the society.

In India, there has been an impressive increase in the number of educational institutions since independence, yet with the large progressive increase in the number of students year after year It has become increasingly difficult to provide additional space for higher education, and because of the inability of the universities and colleges to innovate and change and the higher unit cost of education in these The conventional system also faces constraints on account of socio-economic and regional disparities which have made uniform spread of financial inputs and attainment of social goals difficult Only the new distance system of education has to accommodate the overflow of students In India at present this system with a network of seven open universities and forty seven conventional universities offering courses through distance mode, accommodates about 13 or 14 per cent of about 6 million students in higher education now. This is far reaching educational opportunities to desirous students in unserved areas

This paper makes an attempt to analyse open learning system Indian Scenario - Open Learning Centre, self directed strategy, need of society and expectations, quality assurance and effective media.

The Indian Scenario

With a view to overcome the deficiencies of the institute of correspondence course, attempts have been made to make intensive use of modern communication media and to explore an effective alternative for expansion and quantitative improvement in Higher Education. In the early seventies a National Seminar was organised by Ministry of Education to consider the establishment of an open university in the country. However, the actual initiative was taken only in 1974. Government of Andhra Pradesh took lead in this respect when Andhra Pradesh Open University, now re-named Dr. B.R. Ambedkar Open University was inaugurated at Hyderabad on August 20, 1982. Since then the idea seems to have caught on and today we have seven state open universities and two state open school systems. Of the seven state open universities, six are the state level viz., Dr. B.R. Ambedkar Open University, Andhra Pradesh; Kota Open University, Rajasthan; Yashwantrao Chavan Maharashtra Open University, Maharashtra; Nalanda Open University, Bihar; Bhoj Open University, Madhya Pradesh; and the Indira Gandhi National Open University (IGNOU), Delhi at national level.

These open univesities have gained more and more popularity today with the result that varied target groups have been drawn to the system. These universities have devised varied teaching learning programmes to cater to the needs of ever growing number of learners. The enrollment at higher education through open learning system in December, 1993 was reported to be of the order of 11.5 per cent of the total enrollment in higher education in the country as against about 10 per cent during the period 1989-90. The total enrollment at these institutions in 1989-90 was 4.87 lakhs out of the overall enrollment of 42.5 lakhs in higher education in the country. By the end of the 8th Five Year Plan the system is

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expected to cover about 14 lakhs of learners. It seems, we are moving towards, when every home, office, workshop, and field becomes a place of education and training.

The analysis of the development of distance education (Table 1) in various regions helps us discern some of the trends regarding the future of teaching learning system. It has established its credibility as an academically viable and cost effective alternate channel for education with considerable improvement in the quality of teaching materials, support services and integration of new communication technology. It has the potential of bringing about innovations and quality improvement in education. It is more learner-oriented and therefore, capable of making the learner more self-reliant and confident. It is also capable of allowing considerable flexibility to the learner with regard to choice of study areas, completion time, etc.

The open universities use the course team approach to develop multi-media instructional materials with inbuilt quality assurance devices The programmes are offered through 'study centres' or 'work centres' spread all over the region under the jurisdiction of the university. The SCs/WCs are coordinated and helped in the academic delivery by the Regional Centres. Academic counsellors are usually local experts working in and around the institutions where SC/WC is located. They are oriented to DE mode and they encourage and assist students in their self-study and assess their assignments periodically The assignments form a part of continuous evaluation and have a weightage of 25-30% in the final evaluation. The course and evaluation is carried out at the SC/WC under the supervision and control of the university.

The Open Learning Centre

An open learning centre or activity centre is one way of organising instruction so that students can direct their own learning It is a conveniently designated area where students work independently or in small groups Learning becomes more meaningful and challenging when each student competes only with himsel for herself. Students explore, estimate, experiment, question and hypothesize through learning centre activities. Open Learning Centre carry from a classroom in which students are motivated to learn independently by going from one station to another to a place where students learn to learn, where activities are pre-arranged according to the needs and learning styles of students where students are provided with choice and where students are instilled with the responsibility of their own learning.

TABLE 1

OPEN UNIVERSITIES IN BRIEF-1995

Details of information	IGNOU	BRAOU	YCMOU	KOU
Programmes on offer	34	14	20	11
Courses on offer	372	178	171	120
Students registered	91,398	57,499	43,485	8,557
Students on rolls	242,000	180,000	129,863	20,120
Regional Centres/PG Regional Centre	16	12	7	6
Study Centres	244	100	353	24
Academic Counsellors	12,800	3,245	1,922	1,914
Students awarded/ Degrees/Diplomas/ Certificates	8,917	20,582	1,300	

Audio Programmes produced (cumulative)	605	1,732	226	-
Video Programmes produced (cumulative)	512	178	101	-
Staff strength	1259	495	268	373

Source : University News, May 27, 1996

Learning Centres appear in an endless variety of forms. These are reading centres, writing centres and listening centres. There are centres which develop calculation skills, psycho-motor skills and concentration skills. We see map centres, film centres and literate centres. The list of possible learning centres is an endless one. Depending on the purpose, the learner will have to choose a specific type of centre which will meet learning objectives.

Self Directed Strategy

The 'catch-phrase' often used to describe all learning centres in 'SELF DIRECTION'. All learning centres are designed so that the students can direct most of his own learning. The centre encourages the students to become self-directed learners because students must choose objective, materials and activities to evaluate their own learning. Learning Centres can be designated for any grade level. Older students, particularly, react positively to self directed learning because they have to make their own decision, apply judgement to their learning and bear responsibility to their learning.

Furthermore, students choose learning experiences which will meet their individual needs. Open Learning Centres must possess certain characteristics in order to promote 'Self-directed learning'. These characteristics allow students to progress through activities successfully without any intervention.

Individualized Instructions

Individualized instructions are a necessary requirement for effective learning. Organization is the key to effective individualized instructions. Clifford P. Bee (1980) outlines the sequential steps involved in the individualization process :

Step 1 : Individualization of Learning Objectives

Behavioural objectives can be achieved in a variety of ways. One can see, hear, hold, test and then depending on what is the desired outcome in the behavioural realm falls into psychomotor skills that is the verbal and non-verbal movements of the body and the cognitive domain, that is the "faculty of knowing" usually referring to the recalling and recognizing of specific information.

Step 2 : Some techniques which are particularly suited to individualized instruction or more specifically learning centres i.e.

(A) Learning Activity Packet (a single learning centre may contain many learning activities on a related topic in order to allow for individual needs and interests).

(B) Diagnostic : Perspective teaching is useful and devoted to finding the present accomplishment levels of students and then design a program of instruction which will help each student to attain his level of mastery.

(C) Pretests : This provides the students with valuable information about student progress and readiness to move on to the new material. The purpose of this is to give students an idea of "where they are" progress-wise, to realize their weakness and to strengthen them before any formal evaluation is done.

Step 3 : Suggested Ingredients

Regarding the type of instructional programme being implemented there is a set of basic elements necessary to make the individualization process a successful one ;

1. A sound RATIONALE for any learning activity should be realized.
2. A statement of long-range GOALS and short-range OBJECTIVES should be given.
3. Well planned ACTIVITIES.
4. EVALUATION is an essential element of an instructional programme

Continuous Evalution in Response to the Educational Needs of Society and the Expectations of the Learners : .

One can summarise is a very progressive and healthy trend which is bound to enhance the credibility of distance education and the consequent benefits accruing to the learner. From mere home study, the distance mode has developed into a multi-media teaching learning system. It is developing into an open system of education which is open to all irrespective of age, formal entry qualification, place of residence, sex, pace of learning or completion time, etc. As the traditional system is too rigid to meet the challenges of modern society and working life, distance education by virtue of its openness, flexibility and multi-media teaching-learning methodology seems destined to play a pivotal role in the future by restructuring the 'delivery system' of education and information and by making education responsive and relevant to the needs of learners. Various support services i.e. information dissemination, counselling study centres, contact sessions, library facilities, mobile learning centres, prompt evaluation of the assignments in the minimum turn around time, telephone tutoring and varied media backup would bring development from individual learning to group learning. It makes education not only interactive but also reactive and creative. For the purpose of distance education, educational technology implies the full development of the new means of communication and embraces all the educational methods and media offered by the communication technology for the dissemination of information and knowledge.

Quality Assurance

During the last three decades the open learning system has earned a worldwide reputation for its productive programme and outstanding teaching-learning process through the self-learning course materials and for the academic support it provides for its students. It is known for its distinct feature of providing wider accessibility, higher productivity and greater flexibility in its approach. Quality Assurance in distance learning system can be defined in two ways. Firstly, it can be defined as a teaching process which enables each student to 'grow' on individual basis through his active involvement with course materials and learning styles. It can be defined in terms of learning outcomes which can be achieved when every student finishing his studies is able to develop to his full intellectual potential and his full satisfaction within the chosen area of study.

Open Learning provide national network

The major attraction of distance teaching instructions is that they can cater to millions of students irrespective of places of residence. A national network of a single university can theoretically meet the educational needs of a large number of people. It is possible through the growth of communication technology. In the Open University of U.K., about 80 per cent of the student's time is utilised in printed texts. In the Indian universities, printed texts and a normal personal contact comprise the techniques of distance teaching, broadcasts by TV and radio, carry essential learning materials to the students in their homes the variety of subjects and topics that can be presented. Video cassettes give the students greater control over the learning process. The students can view the cassettes at any time they want. Video disks are an improvement on cassettes and can be used in educational programmes. Audio cassettes are cheaper to produce and accessible to large numbers. The University of Waterloo, Canada has some courses recorded in ten cassettes, each with two lectures on each cassette. The cassettes are placed in a cassette album which can hold upto sixteen cassettes. The remaining places are filled by tutorial cassettes

recording comments of professors or tutors on the written work submitted by the whole class. Both professors and students have been found to be welcoming the taped lectures in the University of Waterloo.

Telephone helps reduce the sense of isolation a distance student may feel; it can make the contact with the tutor speedier avoiding problems of travel and terrain. Teleconferencing has developed as an effective means of interaction. It is a sort of simultaneous telephone call arranged for communication between students and teacher. It is used for instructional purposes in UK, USA and Canada. Telephone teaching is suitable for limited groups and for specialist needs in education.

Micro computers are used for instruction in the USA, Canada and British Open University. Computers can "act" as simulators to allow learners to practice using complex equipment; they can act as infinitely patient tutors allowing learners as much time and practice as needed to master a procedure, they can test levels of competence on certain kinds of skills and knowledge. Tutorial CALL attempts to stimulate the kind of dialogue that a tutor and student engage in. In simulation CALL the computer supplies laboratory or field situation where students are invited to do experiments which would otherwise be inaccessible to them.

In the distance teaching system, the media may take the role of the teacher, the role of the traditional teacher consists in presenting the subject matter, evaluating students, diagnosing the weakness of students and providing the instruction to each student. In this system the media present the subject matter in such a way that each student can study at his own pace. Printed texts particularly give the mechanism for assessing feedback and evaluating students.

Doordarshan has a UGC sponsored programme of 'Countrywide Classroom' which began in 1984. It telecasts educational programmes produced at the UGC media research centres. They have been found to be appealing to the university students as well as to the public. The IGNOU has entered Doordarshan in 1991. The TV is developing infrastructure to accomodate the demands of university directorates.

The possibility or effectiveness of this media based new learning environment is dependent on the structure of the educational system. In India although education has been brought into the concurrent list, it remains largely under the control of state governments. Each state has several universities that prescribe different syllabi for similar courses. At the same time the possibility of each university in India having its own broadcasting unit is remote. Under the existing circumstances, problems are likely to emerge in regard to the availability of air time, integration of course into the broadcasts and other similar matters. However, cassettes and computers do not create such problems, they being independent of the broadcast system and worked by the individual student.

It is of higher consideration that the success of open learning system demands our dedication and commitment which aims to provide new learning environment for all sections of society. To educate our people regarding the new learning environment which is the latest attraction and innovation in the field of education, specially in developing countries like India. let us take full advantage of this new mode of learning and fulfil our expectations for achieving the target of all stages of education.

Interactive Distance Education : A Summative View of Indian Teleconferences

D.R. Goel[1]
D. Sarangi[2]

Television has no more remained a mere item of luxury - just for information and entertainment. For its educational potential it has been used more and more for instructional and training purposes. It has now become a major component of the network of learning resources in Distance Education and has a greater role in extending educational opportunities to the geographically wide scattered population of India. For qualitative improvement in formal education TV has been assigned a major role in expanding students' intellectual horizon through enrichment programmes - CWCR, SIET, CIET, and ETV programmes. It is used to tackle the problem of limited resources and the challenges of providing professional training to a huge mass of teachers. For general education - Health, Environment, Civics etc. and non-formal education to provide professional knowledge and competency, it has also not been less exploited.

The Need for an Interactive ETV

Inspite of its well-established instructional strength, the one-way flow of information which impedes the instructional efficiency and effectiveness has been a big concern for pedagogists, technologists and communication scientists. Particularly in case of distance education, the distinctive features of widely scattered learners, diverse cultural plurality, heterogenous background, learning isolation urged for a teacher-taught interaction in the teletech system. To make television a fully effective and efficient instructional medium teacher-taught interaction is felt indispensable on the following grounds :

1. Perceptual variance occurs between the message intended to be communicated and that received due to differential background knowledge and experience of learners (Flemming, 1970).
2. There is every possibility that learning may not take place to expected depth and dimension. A fuller learning is desirable.
3. Learning distortion/deviation caused through the said points needs to be corrected by some mechanism.
4. The need for satisfying learners' querries/doubts cannot be denied.
5. Making learning meaningful through creating clear cognitive maps in the content area of learning.
6. Increasing the relevance of learning through providing the learner some interest value.
7. Removing the feeling 'learning isolation' from among the distant learners.

Tele-Interaction Through Tele Conference

As such the modern communication and information technology was called for to fetch a good interactive network between the tele-teacher and the tele-learner ends in ETV. The idea of tele-conference was adopted for the purpose. Tele-conference provides a two-way interaction between proximate terminals and is available in different forms on the basis of the type of communication technology involved. These are :

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(1) **Basic Telephone Conference**

People from different locations can have interaction through the basic telephone services. This has been extensively used in the business world. For education purposes, though not much in India, teleconference of this type is used in U.K. Open University and in USA.

(2) **Audio-Graphic Tele-Conference**

Such tele-conference may involve some pre-distributed visuals (slides etc.) and radio broadcast followed by telephonic interaction between the radio teacher and the learner units.

(3) **Still Video Through Audio-link-up Only**

This type of conferencing involves transmission of visuals through the telephone transmission channel. Special inter facing equipment is required to link a standard video camera at one end and to a standard TV receiver at the other. Given cameras and receivers at several stations fully interactive tele-conferencing is possible with two-day transmission of still-shots.

(4) **Full-motion-video Teleconference**

This type of tele-conference provides wide range interaction facilities through satellite communication.

(a) **One-way video : Two-way audio interaction**

Through this system the participants from different parts can interact with the sender TV station. The communication from the TV presenter to the learners is facilitiated via geostationary satellite. The two-way audio linkage either through telephone channels for through satellite satisfies the telequerries of the learners.

(b) **Two way audio : Two way video interaction**

Such type of conferencing is possible through two way TV network. The presenter from different TV stations can interact with each other with audio-video system. Satellite communication enables distant learners viewing the E.TV. programmes to intereact with tele-instructor and both audio-video interaction from both terminals gives the feeling of a real classroom.

(c) **Computer Conferencing**

A central computer with large database can be internetted to distant computer units as communication terminals. Distant learners may call the central computer to have answers to their querries.

Interaction in ETV : Different Modalities

The interaction between the tele-teachers and the distant learners in ETV telecasts can take place in a number of ways.

(A) Live teaching + follow-up interaction
(B) Played back teaching + follow-up interaction
(C) Live teaching + interim interaction (Here teaching and responding to the tele-querries go contiguously)
(D) Played Back Teaching + interim interaction

The main two points in determing a modality are : (1) if the tele-instruction is conducted in live or a pre-recorded ETV programme is played back; (2) the time of interaction, that, if tele-teacher and learners are allowed to interact during the instruction or after instruction. Factors deciding the mode and modalities of tele-interaction between the teacher-taught terminals (Sarangi, 1992; Laurillard, 1991) are -

i) desirability of learner intervention and control on the teaching flow;
ii) structure of knowledge in the content area of an ETV programme; and
iii) the strategies of ETV communication adopted in the ETV programme are more important among others.

Interactive Distance Education through Tele-Conferencing : The Indian Experiments

A series of tele-conferencing experiments have been conducted to assess the feasibility - technological, economic, pedagogic utility and acceptability in terms of learners attitude, reactions etc. of an interactive ETV in the realm of distance education.

1. **ISRO-UGC National Talk-Back Expt. (Nov. 25-30, 1991)**

To study the feasibility of two way communication in CWCR programme, the ISRO (Indian Space Research Organisation) - UGC (University Grants Commission), talk-back experiment in India was conducted from 25th Nov. to 30th Nov. 1991. Later on such a system became an operational system. Twelve CWCR programmes were selected for telecast. For conducting this experiment, different agencies, namely, UGC, SAC (Space Application Centre), DECU (Developmental Educational Communication Unit), ISRO (Indian Space Research Organisation), AVRCs (Audio Visual Research Centres), EMRCs (Educational Media Research Centres) and Doordarshan collaborated. In this system a pre-recorded programme was beamed from the ISRO, Delhi, earth station to the INSAT-ID Satellite and then received back by a normal TVRO and easily transmitted by a TV transmitter of VHF or UHF. This ETV programme was received by students sitting in the classrooms. Ahmedabad, Calcutta, Hyderabad, Madurai, Roorkee and Patiala were the centres selected for talk-back. Two of these centres, namely, Jodhpur and Imphal were linked with the studios at Delhi through Satellite INSAT-1D, whereas, the remaining six centres were linked through the public switching telephone network (PSTN). The students of Jodhpur and Imphal asked questions back through the talk-back terminal. These signals were received and relayed by INSAT-1D Satellite and then received by ISRO, Delhi, earth station. The talk-back from the remaining six centres was facilitated through straight trunk dial (STD) of public switching telephone network. The responses by the TV teacher to the questions raised by the viewers were communicated through the Satellite and then received through receiver- cum-relay transmitters and VHF sets.

To facilitate the talk-back experiment one bilingual moderator was available at each media centre for the experiment. His main role was to establish the link between the resource person and the student. He moderated the student question, and translated it into English, if required. At the Delhi studios the questions were responded to by the resource persons. There was an anchor person to help the resource person in receiving questions from various media centres. The resource persons was accompanied by a Delhi-based expert.

2. **Indo-US Subcommission Project Classroom 2000 + : (May 3-7, 1993)**

Under the auspices of the Indo-US sub commission, the Central Institute of Educational Technology (CIET) has been appointed as a nodal agency to execute the project - classroom 2000+. The project aims to demonstrate interactive distance learning techniques for improving student learning in physcis and mathematics.

The demonstration in interactive teaching was confined to six schools - one Kendriya Vidyalaya Sangthan School, each in Bombay, Calcutta, Hyderabad, Madras, Ghaziabad and Senior Navyug School, Delhi.

The technology comprised TV, Computer, Telephone, and Keypad. The lessons were telecast for class XII from 3 to 7 May 1993 in Physics and Mathematics from 09.45 to 10.30 hrs. and 11.15 to 12.00 hrs, respectively.

Participating schools were equipped with a TV receiver, Telephone, Computer and Interactive Keypads.

The lessons were telecast live from CIET TV studio to Doordarshan via Microwave link and uplinked to satellite for transmission. The communication between the students and teachers in the studio was established by telephone and keypad based computerised response system. The keypad response system consists of a keypad for each student, a classroom computer, two telephone lines and master computer at the CIET. Throughout each lesson the tele teacher asked questions and students entered their responses into their keypads. Within seconds the answers from all the students were tabulated into a bar graph which was visible to the students as well as the tele teacher. The CIET, CMS, Doordarshan, Kendriya Vidyalaya Sangathan, and Kentucky Educational Television collaborated in the experiment From each school there was a coordinator to facilitate the experiment.

3. CEC-ISRO-UGC-IGNOU Teleconference, (Dec. 15-24, 1994)

Under the collaboration of CEC, ISRO, UGC and IGNOU a course on 'New Communication/Information Technolgies" was taught during Dec. 15 to 24, 1994 with the following objectives :

1. To create awareness and impart knowledge about the new communication/information technologies and their applications, especially amongst CWCR viewers.
2. To demistify the new communication technologies and their applications for CWCR viewers.
3. To assess the benefits and potentiality of the interactive mode for passive audience that is, those CWCR audience who are likely to be the main audience but are probably unable to use the talk-back facilities keeping in mind the socio-geographical context of the country.
4. To assess the benefits and potentiality of the interactive mode for active viewers, that is, those who view and participate in the interaction.
5. To estimate all the costs, operational possibilities and likely benefits of operationalising such an interactive mode in the CWCR's regular transmission.

The 'teaching end' located at ISRO Ahmedabad telecast the played back ETV programmes on the specified content area. It had the facility for video-play back transmission through an up-link earth station to the usual transponder INSAT-ID which was re-transmitting to the 'receive only units' and the interacting 'Talk-Back' units. The teaching unit was provided with a mini-studio for on-camera answering of the telequerries from 'talk back' units. The UGC media centres (AVRCs and EMRCs) organised the experiments in different talk back locations spread over the country.

4. NOS-DECU-ISRO TALK-BACK Experiment, (Dec. 17-19, 1996)

The National Open School, an autonomous organisation of the Department of Education, Government of India conducted a tele-conference experiment to orient the teachers of Gujarat (who are associated with the activities of open schooling) in open schooling system. The satellite based teleconference was a one way video and two way audio system. In the present experiment the teaching end was the ISRO/DECU studio at Ahmedabad while the classrooms were at the various district headquarters. In this system the teaching end comprised of a studio where the experts presented an area or topic live. These presentations in TV from video and audio were transmitted to the satellite through the ISRO studio. The satellite relayed back the TV signals for reception directly by small dish antenna terminals and TV sets at classrooms of the eleven District Rural Development Agency for about 300 target viewers.

The Programme Schedule

The programme was of 3 days duration from December 17-19, 1996. Following were the training areas :

1. Concept and Philosophy of Open Schooling
2. Role of teacher in the study centre
3. Interactive instruction
4. Counselling : Its need and relevance in open learning
5. Tutor Marked Assessment (TMA) : Its need
6. Examination and Certification

Daily 10.30 to 11.30 a.m. was morning presentation session, followed by half an hour break for activity and sending in questions and then one a half hour for talkback. 1.00 to 2.00 p.m. was lunch break. 2.00 to 3.00 p.m. afternoon presentation session, followed by half an hour break for activity and sending in questions and then one and a half hour for talkback.

The Over-all Experience

The formative and the summative evaluations of the said experiments yielded an overall experience summed up as :

- The technical, instructional, economic feasibility, legal viability and social acceptibility was established and it proved the operational possibilities of an interactive distance education system.
- Potency of tele-conferencing as an instructional tool in direct classroom, enrichment education and professional training was realized through the experiments.
- In most cases technical co-ordination among the technologists and pedagogist was very much successful.
- Except in few cases of improper use of media-materials due to technology unfamiliarity on part of the academicians and learners, occasional technological shortcomings and personnel management, the experiments were successful for the operational level.

From Lab to Operational Level : IGNOU Tele-conferencing

In an attempt to implement an interactive ETV for distance learning, the IGNOU has been conducting teleconferences regularly for :

i) Distant students of various courses of IGNOU;
ii) Counsellors handling counselling sessions for various programmes at study centres;
iii) Regional Directors, Asstt. Regional Directors and Staff members of IGNOU.

The interactive network system has three basic components viz :

1. The Teaching End;
2. The Receiving End; and
3. The Space Craft.

The teaching end transmits the instructional signals (Live Instructions, Play Back Instructions, Panel Discussions etc.) to a geostationary communication satellite through an 'up-link-earth station" located in IGNOU's campus. The satellite communication is possible through an extended 'C' band transponder on INSAT-2B. The satellite receives, amplifies and transmits these signals which are received at the receiving ends (Classrooms/Conference Halls) by means of a Direct Reception System (DRS) - perforated dish anterna of 8-12 diameter, front-end electronics and an ordinary television receiver. The receiving ends have been provided with STD facilities to have audio-interaction with the teaching end. Currently there are two types of receiving ends viz : (i) 'Talk-Back' locations, those having STD facilities and are able to interact with the teaching end (ii) 'Receive only units' those without STD facilities receive only and cannot have interaction with the teaching ends.

Future Directions

Much has been learnt about an interactive Distance Education System through tele-conferencing, still more left yet. In order to make the system pedagogically more effective and efficient more insight is required into the following aspects :

- What should be the structure of interacting expert team (anchor, moderator, content experts) ?
- When to go for live/play back instruction, which should be the deciding factors ?
- How to determine the appropriateness of a specific tele conference mode and the interaction modality ?
- Is there any necessity of orientation for Tele-Querrying and Tele-presentation?
- Do we require to impart an elementary knowledge of technology to academicians and learners for efficient handling of the equipments ?
- How to select and adapt instructional communication strategies in relation to tele-conferencing ?
- What about future extension of talk back units ? How to manage more number of tele-querries within the available limited time slot ?
- How to overcome the long standing inertia of the traditional teaching learning system and set it into the new system ?

Need for Basic Research

The series of experiments concluded an air of satisfaction through seeing the system moved. Yet can we keep our eyes closed to some sincere doubts ?

How is the depth/level of interactivity; in telequerrying ?

How does it add to the 'meaningfulness' of learning in terms of underlying cognitive maps in the content area of learning ?

Is the outcoming satisfaction not a reflection of emotive enthusiasm of being envolved in the process ?

Only more rigorous inquiry can answer.

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Management of Open Universities

S. Sengupta[1]

Introduction

Ideally one might ponder as to what is so special about the management of open universities. The principles of managing any organisation should be good enough to manage such institutions. True and basically such principles will only be responsible for management of open universities. Then what is this "hulla-balloo" about? What is so special about? Well, technically there is nothing special really, but only the attitude and approach towards managing such institutions shall have to be different. The difference must not only be heard, but seen in all its sphere of activities and actions. But why worry about attitude. After all, the attitude is only a reflection of one's perception. And precisely that is the point that I would like to make very strongly while elaborting this write up.

The attitude referred to or rather emphasised here will incorporate all concerned engaged in the affairs of the open universities, be it the highest authority or a junior personnel. Having spent a considerable time with the premier National Open University of the country, I can explicitly state that a different approach is certainly responsible for the successful management of these Institutions. Before I proceed further, let us try to understand the status of the open universities in the country.

Open Universities in the Country

Ever since the Delhi University began its correspondence courses way back in the sixties, the foundation stone of the distance learning was laid in the country. With the advent of BRAOU, Hyderabad, the floodgates were opened. The deluge was the establishment of Indira Gandhi National Open University. Much more water has flown in the holy rivers of the country since then. A few more state level open universities have come up and doing quite well. A few more are in the pipeline and one hopes that by the turn of the century, we will have many more, at least in the larger states of the country. If the students enrollment is the parameter of its success story, then its academic standards are impeccable and worthy by any means. Fortunately, the common people have started realising the difference between a stereotyped correspondence institute and an Institute of Distance Learning. Without any malice to anyone or any institution, let us agree that the Open Universities with strong distance learning base will stay in the country for the future.

The Open University of U.K and Athabasca University, Canada are the forerunners in the globe for developing and contributing a lot for spreading this concept. Although, today, Athabasca is not the same as it used to be in terms of student participation and academic excellence, yet no one can deny its role in consolidationg the hitherto unknown mode of education in the early seventies. But the remarkable progress made by IGNOU is something must be seen to be believed. Barring Nalanda Open University in Bihar, which remained largely invisible for quite some time, other state level Open Universities have done reasonably well in maintaining the standard of academic programmes and steadily progressed in enrolling students in its fold. The question that arises is how they have been able to manage to maintain this steady progress were a different approach and attitude by the managers and the staff responsible for this success or was it God's gift. I will not agree to the last contention and strictly believe that there is certainly some different measures adopted by these institutions to maintain a high standard consistently over the years. Before we examine the reasons of the reasonable success achieved by the Open Universities in the country, let us understand the basic principles of management.

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Principles of Management

Organisational structures are the pillars of management in any organisation. The structure is built around the principal functions of the organisation. Broadly, they can be described as; planning , organising, staffing, directing, coordinating and controlling. There are a few more important functions like public relations, development of office systems, safeguarding the assets, management of office equipment, management of personnel etc.

Of late, however, there is another area which has been playing a very important role in the management of any organisation and that is called the Human Resource Development. This area is replacing the hitherto known personnel functions in most of the organisations in the country. Fortunately the replacing mechanism is oriented towards the benefit of the staff as well as the organisation. Hence, we find today a number of training activities in various organisations as well as a spurt in the area of organisational development. It is here that the management of open universities need to reorient its attitude and approach and proceed to make dent in the organisation. But more about it later.

Let us examine these bookish principles of management. There are no two ways about the fact that the principles are important and serve as the basic tenets of the managerial functions of any organisation. Imagine a situation where no planning is done even for a macro level job and we can realise the consequences. Let us also imagine that there is no control mechanism in an organisation - disaster can be the only result. So no one is objecting to follow such principles, in fact absence of any of those principles will come in the way of managing any small or big organisation. What is equally important is the additional flavours in this cup of tea. Human resource development makes that difference or adds to that flavour. Now what is HRD actually?

Basic HRD Norms

Without getting into the jargon of the experts, let me simplify the definition. HRD is basically to discover the potentials, capabilities and strengths in its employees and bring them out to the fore. HRD is also likely to determine the weaknesses among the employees and arrange to improve them so that they can become equal to the others in the larger scenario of the organisation. HRD, thus, emphasises on knowledge, skill and attitude development through training, improve career development potential, encourage participation in decision making, and also through these intervention tries to improve the individual as well as the organisation.

After all, one should remember that the organisation is for, by and with the people working there. If they are developed and grown, the organisation grows and develops; if not the principles fail and chaos reigns. Training thus assumes a very important role in developing and shaping the people's attitude and approach. Positive gestures from the mangement, however small they may be, have an overwhelming impact on the people. Let us remember that this is the world of "Give and Take" and it is amply clear and evident even at the macro level management of an unit in an organisation. Does this approach work well? Does this attitudinal change pump up some adrenaline among the staff ? I think, "yes" and consider them as most important factors of the success story of the open universities. We will examine them in the following paragraphs.

Management of Open Universities

Like in any other organisation, the open universities in the country also follow the basic management principles. The difference is that they equally preach and practice the HRD principles. While in some places the emphasis is more on staff development, in some other cases, it is the growth of the staff. In some cases, it is a combination of both or few other factors. Generally pursuing a positive attitude towards the staff by the management and the perception of the staff that the institution is a caring family and they are part of the family, make all the differences in managing such institutions. I must admit that these factors are also responsible for the success of other well managed institutions as well, including the corporate sector.

Having closely associated with IGNOU for nearly a decade and actively engaged in bringing change in the attitude and approach from both the sides and having succeeded to a large extent in this

respect, let me hasten to add that these small "Tricks" have done wonders in improving the Management - Staff relationship.

IGNOU was also the forerunner in introducing regular training programmes for academics, administrators, technicians on a regular basis, which have contributed significantly in improving the relationships. In most of the cases the decision making was participatory by inducting staff (it does not matter that they were all academics alone) members in various decision making bodies like the Board of Management, Academic Council, Planning Board etc. My experience in the STRIDE bears the indelible mark of participatory decision making. Here again is a point to be reckoned with. The participation, the bonhomie must start at the unit level and then spread to the wider perspective. The responsibility lies with all. It is no use saying that one is more responsible and the other is less.

The suggested management approach in an open university is greater participation and this is where the attitude needs to be changed. Perception of a worker in an open university and in any other run of the mill office must be different- the sense of belongingness and involvement have to be in much higher scale than the other. How does one inculcate these virtues, how does one bring in the value system in a so called government organisation. (Education in India is mainly a government business, be it under state or central). The one sure shot answer to this is staff development and career development. The more these developmental activities are undertaken, more will be the reciprocity despite the presence of some skeptics and 'Sab Chalta Hai" * type. Now the question may arise as to who will bell the cat. It should say both, but the organisational commitment towards these activities should be more and the staff should respond favourably. My experience shows that generally the people respond equally. While the magnanimity must begin from the management with total involvement to the cause, the other side also must respond in an equal magnanimous manner.

I have seen this happening in IGNOU, BRAOU and YCMOU to a large extent and I hope that the same will be the case with other Open Universities as well. The question may arise that why the conventional universities and other similar institutions cannot take a similar attitude and improve their functioning. Well, it is for their management to do so and I think it is possible everywhere if the will to extend the positive attitude exist and pursued. The problem is that in most of the conventional universities and other organisations, the concept of staff development is by deputing a few officials in some training programme and nothing more than that. Similar is the case with some other institutions. The need of the hour is to develop the system of HRD in an organisation. The open universities need them more because they are relatively young, the staff are bumbling with enthusiasm and this enthusiasm must be exploited to the hilt to pave the way for a better managed organisation.

Conclusion

Thus far and no further. In order to continue the success story each institution (specifically the open universities) must have a very strong HRD department with a strong training base. The organisational commitment should be absolute and so will be the people's commitment. While one will strive to bring a change in the attitude and approach of the personnel through developmental activities, the other will make amends and change their old perception about work ethos and ethics. All concerned must feel indebted to have got the opportunity to be in an institution like open university and fulfill the demands of the institution. This realisation from both the sides will inch into a successful managerial style and the functioning of the institution will improve. It has been proved time and again that positive reciprocity is the key to success. However, one should keep in mind that the organisation can only create an environment, learning and giving the best lies with the personnel of the organisation. So far most of the open universities have taken up the gauntlet and aided in the prosperity and growth of the organisation and one hopes that this will continue unabated in future. The successful management of the open universities will depend on the creation of a HRD atmosphere by the authorities and the staff capitalising on this changed atmosphere and improving themselves. It has to be a two way traffic and more all concerned remember this, more the better for all.

* A popular local lingo in Delhi and North India denoting "Everything is O.K." in a very casual manner.

Open University : A Substitute of Traditional University

Nisha Agarwal[1]

There has been remarkable progress in the field of higher education after Independence but this progress is not balanced in proportion to the huge population of India. At the time of Independence only 1,80,000 students were receiving education at higher level. Today inspite of many universities and colleges, the desirous students do not get admission easily into the curriculum of their choice.

UNESCO had conducted a survey of the existing education system in all countries in 1962 The report running into 500 pages stated that the sentiments of class difference are deepening by the education. In India, particularly in the field of higher education, 'right to education' has become limited to yet lesser people. The progress of higher education in India has faced many problems.

i) Economic hardships of the students.
ii) Inadequacy of hostel facilities.
iii) Derth of able teachers.
iv) Derth of proper educational facilities.
v) Admission of undeserving students in the higher education.

Many desirous and able students are deprived of the facility of getting education due to collosal explosion of population in comparison to establishment of new universities. As such, open universities were evolved.

Beginning of Open Universities

The idea of University of the Air was first mooted by Mr. Harold Wilson of London in a speech in Glasgow in 1963. Thus, in 1969, first Open University was established in U.K. In India, the first Open Uuniversity was established in 1982 in Andhra Pradesh on the pattern of Open University of UK.

Establishment of Open University in India

In 1982, Open University was established. A unique experiment was undertaken in Andhra Pradesh to bring the benefits of education to all levels of society and all classes of people such as men and women, office and factory-goers pensioners, housewives, in short all adults over 20 years of age. Physical distance does not matter. Even if one is living in a remote area, miles away from the nearest college, this University will bring knowledge and learning almost to his doorstep through well produced course materials. The backbone of the whole scheme is a wide network of study centres located in important towns in each district of the state and if possible outside the state of Andhra Pradesh.

Indira Gandhi National Open University was established in September, 1985 by an Act of Parliament. Late Shri Rajiv Gandhi, former-Prime Minister of India, said, "Our endeavour is that, in India the poorest, the most backward children may receive best possible education and in this direction today we are here to take a step forward. This Open University will extend educational opportunities to all the corners of the country."

The basic task of Indira Gandhi National Open University is to advance and disseminate learning and knowledge by a diversity of means including the use of communication technology. In the process it has to increasingly aim at democratisation of higher education and maintenance of high standards covering larger segments of population, vocations and professions. Besides, it has to encourage and strengthen the open and distance education system in the country.

There are 7 Open Universities in India :

1. I G N O U
2. Andhra Pradesh Open University which is now known as B.R. Ambedkar Open University

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3. Kota Open University (Rajasthan)
4. Nalanda Open University (Bihar)
5. Yaswantrao Chauhan Maharastra Open University (Maharashtra)
6 Raja Bhoj Open University (Madhya Pradesh)

According to National Education Policy, 1986, "The arrangement of Open University has been done with the aim of providing opportunities of higher education and as a means for the democracy in the field of education."

Objectives of the Open University

i) Providing more equal opportunities for attaining higher education. Giving opportunity to such person who are in the employement and are being deprived of the opportunity of attaining higher education.
ii) Helping those people who wish to study new subjects or want to renew the knowledge while continuing to be in service.
iii) Extending knowledge through different means including communication technology.
iv) Providing opportunity of higher education to a large part of the population. In general promoting educational welfare of the whole society.
v) Encouraging the systems of Open University and Distance Education within the structure of the education of the country and coordinating standards in these systems.
vi) Helping completion of programmes of Adult Education.
vii) Promoting national integration through policies and programmes of the universities.
viii) Providing opportunity to a very large segment of people especially backward classes for higher studies and enhancing importance of education in the general public.
ix) Relaxed entry qualifications.
x) A study programme suitable to learner's pace and convenience.
xi) Flexibility in choosing courses.
xii) Use of contemporary and appropriate educational and communcation technology.

Regarding syllabus Prof. G. Rama Reddy said, "In Open Universities through new applied courses and through planning of teaching by selected teachers and specialists, there is a possiblity of many qualitative changes. Because of higher standard the degrees of Open University are of equal worth."

Method of Instruction

In Open Universities the education is mainly imparted through mass media The curriculum is supplied to students through correspondence by the university. The lessons are broadcasted by Radio and Television in few states . These lesson are broadcasted by experts.

Open University claim to use multiple media of communication in varying measures which include Radio, T.V., Video, films and film strips, correspondence material, contact programme, kits and computers etc.

Open University adopts multi media method for instruction. It includes instruction through printed course material sent by post, contact programmes, radio lessons, video, summer schools and laboratory training.

Thus, open university does not depend on any particular teaching method. A number of teaching techniques are used viz :

1. Broadcasting services by Radio.
2. Transmitting lectures of experts by video tapes.
3. Transmitting lessons by specialists through television.
4. Despatching lessons and instructions through correspondence.
5. Arranging part time teaching.
6. Distributing prepared programmed, text-books to students.
7. Organising seminars and class tutorials casually.
8. Organising contact classes. In these classes lectures by specialists on the specified subject are organised.

9. In Open University education system written assignment is given importance. Students send their assignment to University office for evaluation. Specialist teachers return the same after evaluating.
10. If needed, students are called to the centres for teaching important things.
11. Organising open libraries, workshops and laboratories.

Evaluation System

IGNOU has a three-tier system of evaluation-

1. Check your progress (self-assessment) : This is provided at the end of each unit and helps the student in assimilating the subject matter.
2. Assignments (Internal Assessment) carry a weightage of 25%-30% to pass the examination. There are two types of assignments :
   i. Computer Marked Assignment (CMA)
   ii. Tutor Marked Assignment (TMA)

   These assignments, after evaluation, are returned to the students alongwith the teacher's comments. The students learn from these assignments as much as they do from the face to face contact programmes.
3. Term-end Examination : This is the major component in the assessment of the students as 70% - 75% weightage is given. The University holds the Term-End examination thrice a year in the months of May, September and December for all the courses in all the programmes. A student is required to pass both the Term-End examination as well as the continuous Internal Assessment in each course as per scheme intimated from time to time.

Characteristics of an Open University

i) Education is spread over all the parts of the country whether rural or urban, hilly or plains through Open University. Its organisational structure is spreading all over the nation.
ii) Open Universities provide opportunity to all country men for attaining higher education.
iii) Open University provide opportunity to attain education of life science.
iv) Provide opportunity to attain education of students choice and convenience.
v) These Universities do not require any degree or certificate of earlier education for entrance to the higher education. Rather all students desirous of attaining higher education after the age of 20 years have facility to appear in the entrance test without furnishing any certificate.
vi) The facility of appearing in the examination and obtaining certificate accordingly exists to all studying students in these universities but if any students gives up/postpones his studies without completing the course then the certificate is provided only for the course completed.
vii) Open Universities provide freedom of selection of course according to one's choice and convenience.
viii) Studying in Open Universities is economically profitable.
ix) The Universities provide education of domestic utility as also opportunity to advance technical education to the people servicing in different fields.
x) In traditional universities only those students who have studied the respective subjects at secondary level get admission into different faculties of higher education i.e. those who have studied science, commerce or arts at secondary level get admission into respective faculties at higher education level. But in open universities students are free of these restrictions. Admission can be sought to any faculty of choice.
xi) In traditional universities the student has to fall a prey to corruption right from the time of admission to the time of passing the examination whereas being free of all these evils, Open Universities are proving their worth in the interest of the nation.
xii) Copying is horribly rampant in most of the Universities of the country today but Open Universities are still free from the ill effects of such kind.

Demerits

1. The education and instruction imparted by Open Universities do not provide facility of instant teaching except computer.
2. The universities also do not provide opportunities of inter-action and conference to students for certain programmes.
3. In these universities the opportunities are ampel to attain education and in comparison to the expenses incurred the demand is low. This students do not get desired benefit of the education attained.
4. In India where a large segment of population is illiterate and primary education needs to be imparted, encouraging Open Universities for providing higher education directly does not fulfill the real need of the country.
5. As Open Universities provide a long period to students for attaining degrees, they succeed in obtaining degrees somehow or other though they might not have acquired desired knowledge.

Suggestions

1. In Open Universities the medium of instruction should be the regional languages of respective state so that all students may get desired advantage.
2. As far as possible illiterate people should be provided with primary education so that illiteracy may be eradicated from the country.
3. Open Universities need publicity on large scale.
4. Number of Open Universities should be increased.
5. The facilities to students in Open Universities should be enhanced and arrangement of free books, scholarships, prizes and gifts etc should be made so that morale of the brilliant students may be boosted.
6. In Open Universities the teachers should be trained and qualified Professors and Directors should be appointed with due respect.
7. Faith in these universities should be evolved through seminars and meetings and by organising cultural programmes.
8. If the numbers of such education centres is increased in India, those working and helpless but deserious of attaining higher education, after break would also get opportunity to fulfill their ambition.
9. The classes should be convened on certain dates at least one or two times every month so that students keep getting inspiration for the studies.
10. It should be ensured that constraints of fee payments etc. do not impede the easy access of the weaker section to these universities.

The success of Indira Gandhi Open University is spectacular It is running in its 12th year of existence. In the life of universities, a decade is indeed is not much time But the progress made by this University in this one decade both vertically and horizontally is worth mentioning. The first convocation was held in Feb., 1989, when 1,040 students received their diplomas. By 1995, 372 courses have been launched and the number of students admitted to the Univerisity is now two lakhs.

It seems that if some evils could be removed, these Open Universities would be very helpful in advancing and extending higher education in the country.

Open Learning in Technical Education : Some Conceptual Issues

Jyoti Kiran Shukla[4]

Introduction

As a global phenomenon in the field of education, recent years have witnessed a significant change in learning environment. The process of evolutionary adaptation has never been so fast, strong and distinct as in recent years. Institutions of higher technical education in India are also being considerably affected by the alterations emerging due to global transformations and shifting priorities and accents of nationwide policies on education. Optimisation of resource use has now become the objective function of every learner-centred market oriented Technical Education Institute (TEI). Stronger links with industry, need-based curriculum, rationalization of contact time, revenue generation, effective use of IT and optimal learning conditions, therefore, are the major areas of concern of TEIs.

One response which meets these challenges is open and flexible approach to teaching and learning. There has been a growing acceptance of the fact that the TEIs will have to assume flexibility at all stages and levels from structure of courses through to the forms of assessment if they have to achieve quality output in teaching-learning and research. Instituting Open Learning System (OLS) will have significant implications for TEIs, however the degree of impact will be different for the 'top of the spectrum' and 'medicore majority' types. The present paper reviews the implications of instituting OLS in TEIs in India exploring a number of issues concerned with flexible learning. It takes Regional Engineering Colleges as reference set, however some of the observation may be fairly general. In a way, it presents a "System Audit" highlighting the major concerns, resources and constraints, strategies and probable responses and benefits and costs. System preparedness for "Change Management" has also been critically analysed.

Section 1.1. defines OLS in the context of higher technical education. Section 1.2 argues how flexible learning is a necessary and valid option for RECs. Section 1.3 presents a discussion on broad issues in this context reviewing the suitability and preparedness of the present set up to absorb the conceptual and structural changes.

1.1 Content and Context

Open learning has been defined flexible at various sources. Many times the terms 'open', distance' and 'flexible' learning are used interchangeably. Broadly, they are used to express an approach which provides students with the opportunities and options to take greater responsibility for their learning with provisions to meet individual needs. Support is provided through pre-structured learning material, resource centres and faculty. A scrutiny of the processes and approach suggests that in OLS learners 'autonomy' and 'choice' are the main elements. Ideally, learners have a better understanding of negotiated objectives; they take individual routes, adopt individual styles and work at their own pace. Apparently, the system involves a significant shift from the teacher centred, whole class, controlled teaching towards individual or group management of learning. Figure 1.1 presents a conceptual picture.

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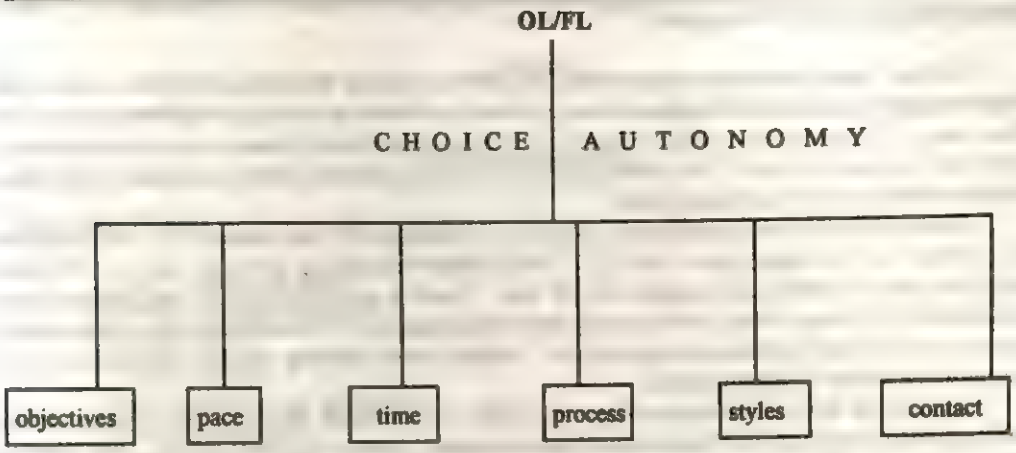


Fig. 1.1. Open Learning Concept

Flexibility could be offered in course structure, provisions and forms of attachment to an institute too. Coming to the specific context of TEIs, open learning could be interpreted as an approach to promote student's autonomy and learning priorities. It is about re-organising teachers role as collaborator and promotor of learning autonomy for optimal learning experiences. These experiences are achieved through the provision of well-thought, pre-designed course material (any media), negotiating of objectives, mentor support and group tasks. OLS could be applied to the following learning situations in TEIs-

- Conventional lecture situations
- Small group unsupervised work
- Laboratory classes
- Independent study on/off site support
- Group learning
- Industry training

Though long term aim of TEIs and RECs may be to establish distance learning facilities largely of autonomous and independent nature, more immediate concerns involve the development of routes and materials for traditional learners - methods and resources. A review of recent initiatives in RECs on open learning would reflect preliminary objectives of :

- facilitation of high quality teaching and learning for much larger numbers and diverse groups of students with restrained staff (and supporting staff) growth; and
- broadening the teaching styles and resources for effective learning experience for every student.

1.2 Rationale

A set of logical question that must be addressed at this point comprises why a shift in approach? Will it be really beneficial? Or how OLS meets the challenges faced by RECs in particular and TEIs in general? The following set of arguments present a persuading case for developing OLS within the context of RECs.

Resource Use Optimization

A major concern of RECs is their inefficiently utilized capacities in terms of infrastructure, resources and staff potentials. Economic level of operation would demand better provisions to cater to wider clientele which would mean capacity to cater to higher number of students - traditional and non-traditional both - with more flexibility to suit wider needs and expectations. Such provisions are inherently in built in OLS

Resource Generation For Development

Further, market pressures are compelling the RECs to assume the positions similar to that of the 'Monopolistically - Competitive" corporate firms which attract clients by offering uniqueness, quality and product image. Flexibility and option choice in course provisions and structure are always attracting factors from this point of view. The essence is, if India is to go global in education market, signals have to be interpreted and translated into policies.

Concerns about revenue generation, financing of development and research by a self-sustained-system, which form a major part of AICTE - HRD communications in last four years to TEIs have brought the issue of efficient re-allocation of staff time. There is growing awareness and pressure about 'rationalisation' of contact hours, so that faculty could devote adequate time and attention to other equally productive pursuits and professional expectations. Resource based learning becomes imperative in such situations to the extent of adopt or perish.

Further, in view of the current boom in favour of knowledge economy, the training and re-training activities in industry and business are receiving greater attention than ever before. Such areas are potential markets for TEIs if tailor-made open learning opportunities are generated. A study of schemes like Industry-Institute associateship which is in a primitive stage in some RECs, indicates that industry expects training, re-training material and resource centres from TEIs.

Effective Learning Experience

Considering the effective teaching - learning objective alone, OLS strengthens the abilities of RECs to deal with typical learning situation like large heterogenous classes with special needs of disadvantaged and expectations of 'high-fliers". Again practices of OL can add flexibility and variety into conventional lecture mode. A change in approach and process can allow the use of standard principles of OL to construct better learning experiences for students. Much of the pre-course material, much repeated laboratory instructions and suggested reading material could be the probable open learning zones. An investigation of the students' attitudes also reveals that REC students feel that they are over-taught and are willing to take responsibility for their own learning with adequate institutional support (Shukla, 1995). It is also claimed that enhancing the autonomy of learner and opportunities of self managed learning prepares them better for their future roles and thus is an important input for personal-professional development of an engineer.

Also, all flexible and open learning initiative could be seen as valuable opportunities for the RECs to broaden resource base and staff expertise and incorporate innovative teaching styles to ensure quality assurance in curriculum.

Table 1.1

Implication For RECs - Major Future Concerns

- Cater to increasing and diverse student population
- Nurture effective learning environment
- Self sufficient system
- Effective IT deployment and adaption
- Quality Assurance in Education
- Rationalization of contact time
- Strengthen business - Institute links offer
- Need - based curriculum
- Support mechanism for special needs
- Staff development for adjustments to new roles

Table 1.2

Gain Accounting From FL

Institution's Gains

- Broader catering capacity
- Provision for special needs
- Self sufficiency
- Value for money
- Quality assurance in Education
- Learner centredness
- Resource generation for development

Teachers : Do we Gain Anything ?

- Flexible/ Efficient time use
- Effective learning environment
- Provision for high fliers and low fliers
- Capacity to handle large/heterogeneous class
- Opportunities for professional development
- Professional satisfaction (!)

Students : Who Do They Gain ?

- Autonomy in learning
- Priority based time alteration
- Better opportunities to learning
- Innovation and creativity
- Preparedness for future roles
- Self paced learning

From the point of view of effective utilization of IT and packaged curriculum, which is sometimes just right, OLS offers limitless potentials. Well thought 'mixing" and 'innovation" promise incredible results in terms of learning experiences. Academic community has shown great enthusiam in this direction.

Development Strategy

The pressure of restrained staff growth and funding also seem to be giving quiet signals-flexibility for survival and growth. Table 1.1 presents a list of major concerns of RECs in view of current change and table 1.2 presents gain accounting from OLS. A close observation would suggest that they are not so unrelated and therefore should be seen and interpreted as system's response to change. Thus, rather than locating the potentials of OLS within the context of RECs, the time has now come to develop appropriate strategies and plans for instituting OLS in RECs. However, an indepth analysis of related issues is required alongwith an investigation of the systems preparedness for change and further of its ability of change management. In the next few sections attempt in this direction has been made.

1.3 Broad Issues

Integrated Educational Development

One of the major shortcoming of the educational planning process in RECs has been a lack of conceptual understanding about the synchronous development of curriculum, staff and resources. Integrated educational development involves a simultaneous, coherent and triangular pattern of development, appropriate curriculum, adequate learning resources to suit curriculum needs and correspondingly well trained staff to manage both. Despite impressive investment for procuring resources - for example computer networking for learning - necessary efforts to retrain staff on preparation of learning material or assessment have either been ignored or are very weak.

The introduction of OLS will have to be implemented bearing the lessons of the past in mind. A more realistic sustainable approach will have to be evolved which should be consistent with the organizational aims and objectives. Resources based learning would imply significant change in curriculum too and will need trained staff-time to produce and manage the Independent Learning Material. No isolated effort, however brilliant, would work. These three variables have to be taken simultaneously, And this principle of integrated educational development certainly deserves a wider audience.

Till recently Technical education enjoyed the "social priority" status, therefore, returns to investments has never been a seriously encouraged question. However, the post reforms education sector should essentially have an adequate knowledge base for rational decision making on alternative selections. This means encouraging research on educational issues relevant for the expanding technical education sector. This aspect, somehow, has never received its due attention.

Institutional Commitment

A strong institutional commitment and support is required to institute flexible learning within the structure. To begin with, the institute itself should be flexible enough to accept and

Table 1.3

	Change-oriented organization	Resistant to change
* roles of teachers	Continually changing	Static
* staff structure	flexible	fixed and line type
* leadership	emerges	By designation
* culture	flat, non hierarchical inclusive	bureaucratic by heirachy
* management	by team work	dictated
* goals	negotiated	dictated
* promotions	performance based	experience based
* personal aspirations	match well with organisation aims	mismatch
* staff development	high priority planned	low priority random
* communication	frequent reliable	infrequent unreliable
* team work	matrix mind set	does not work

* teacher student communication	honest	guarded, poor

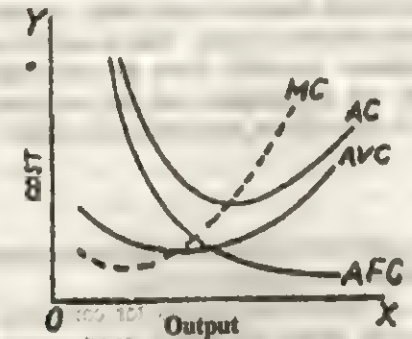
(Adapted and developed)

offer flexibility. Consider table 1.3 for evaluating encouraging environment for change. If marked, most RECs scores would be discouraging due to the prevalent funding patterns, admission policies, governance, university affiliations and lack of autonomy and flexibilities in curriculum, culture and communication. The degrees and nature of constraints may be different due to institutional specificities and exceptions would always exist yet an overall picture in the past does not portray RECs as fast learning change oriented organization. At the sametime this is also true that change is beginning to happen, therefore there are all the more reason to plan it more carefully.

Planning to embed OLS within the teaching programme will have major implications for policies on educational and training technology, teaching innovations, tutorial relationships, re-allocation of faculty time and priority areas. Institution will have to prepare coherent action plans to be prepared for this, which are flexible enough to respond to future changes. RECs will have to invest considerable time and energy to translate their concerns into policies. A strong inclusive culture of team work will have to be developed for bringing the desired results.

Cost Benefit Analysis

Cost benefit analysis for instituting OLS will be a complex and tedious exercise. No reliable data-base exists on cost benefit analysis in technical education in India. Except for a few individual attempts, no official attempt, at least visibly have been made to calculate fixed, variable and opportunity costs and benefit streams for the existing facilities. As mentioned earlier the decision to introduce or reorganise OLS will have long term cost implications. Advantages may be too expensive to afford or alternative option may be more attractive. Alternatively, the long term diminishing costs on scale economics may ultimately seem economical. These are the specific issues that individual institutes will have to scrutinize at their own level, before committing. The cost of course development, hardware and software installation and other investment in Learning Resource Centres are the main initial and heavy investment items. However, an institutive approximation of cost structure could be similar to that shown in figure 1.2 We may note that average fixed cost (AFC) constantly falls. AVS and AC are U shape which tend to fall up till the optimum level of operation.



Average and Marginal Costs

Fig. 1.2 : OLS : Average and Marginal Cost

It is assumed that teacher support is inherent in OLS, if learning is entirely managed by students then there AVC would behave differently. Benefits are spread over a long periods of time and may not be tangible at times. In fact this may be an important aspect for educational research to ensure that investment is efficient.

Change Management

Staff Willingness and Competency

The new practices will need attitudinal changes. Rather than of being controller, provider and evaluator the role of teacher will now be of collaborator resource manager, promotor and mentor. Service staff willingness culture will have to be established to perform these new role. There will be resistance. There may be temporary mismatch and chaos also. A well thought yet flexible staff orientation and development strategy for acquiring new skills and competences would be the only solution.

In fact staff development at RECs has hardly received the attention it deserves. There is growing realisation now that for sustainable educational development staff development is the key factor. Activities of Indo-UK REC project have further strengthened this notion. Tailor-made programmes will have to be made for institution managers which address the issues like changing roles implications of autonomy, resource expansion, Quality Assurance and organisational structure.

Specific skill formation and extension activities will have to be designed for teachers for preparation of Independent Learning Material. Transmission use of different methodologies media and materials to prepare the learning material will form an important input. In brief, an overall need-assessment and an effective staff training programme should be the issues of prime consideration.

Students Attitude

Learners centredness is unreal without exploration of the learners' response to teachers innovation. In higher technical education in the present system learners receive rather than contribute to change. No effective-open or formal-arrangement exists where they can negotiate learning objectives, process or curriculum.

A pilot survey of students opinion mentioned earlier suggests that students appreciate diversity in teaching, expect more flexibility and are moderately motivated towards ILM.

More comprehensive attempts should be made to explore the students' opinion on perceived advantages, motivation towards OLS, constraints, barriers and special needs. Without this the initiative will remain one sided.

Networking for change

Surprisingly, the inter-institutional dialogue despite fairly common issues, is extremely weak amongst institution of higher technical education in India. This is specially true for RECs. In view of the current concerns and resource constraints inter-REC efforts for educational development will provide benefits of 'comparative advantages' and specialization and pool and share policy will lead to a state where every unit gains significantly in terms of cost, experience and wisdom.

Conclusion

Gain accounting from OLS confirms the hypothesis that moving towards flexibility is a rationally arrived optimum decision for TEIs for achieving quality learning.

However, an investigation of system preparedness for conceptual change from conventional learning modes to OLS suggests that the system will need to invest a major proportion of its resources, staff-time and energy to develop attitudes, strengthen mechanism and structures to adapt, absorb and optimise the OLS for providing the most effective learning experience for every student. The resource allocation will have to be carefully planned to bring real efficiency gains without reducing funds for research and support services as the demands may sometimes be conflicting.

Thus, one step at a time approach will be more rational. Policies for a simultaneous-synchronous development of curriculum, staff and resources will require strong research linkage. Therefore, there is a strong case for promoting research on various aspects of higher technical education ranging from cost-benefits to students response. To institutionalise such research and implementation of monitoring, each TEI could establish an Education Development and Extension Centre which can act as ' change agent'.

Some RECs have already started working in this direction. Inter-TEIs collaboration could also be one strategy for identifying common issues, concerns and thrust areas for change management. Cost effective solutions then can be worked out in various areas - for example for producing ILM for slow learners - which can then be altered to suit institutional environment and needs.

Such initiatives and innovations will have to acquire continuous support well motivated staff. Present mode of staff assessment is a demotivator as it does not appropriately recognise innovations in teaching and curriculum. This may be a serious issue for consideration. No amount of staff training would work if there is no incentive or autonomy to utilize that training.

Finally, the institutes will have to develop much stronger service culture to accommodate different needs and approaches to learning.

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The Paradox of the Paradigms : A Conceptual Foundation for Teaching the Perceptual Arts at a Distance

Godwin Bradbeer[1]

Introduction

Australia has a long history of involvement in distance education. The reason for this is not difficult to appreciate. Australia is a very large continent-larger, in fact, than the whole of Europe. Yet it has a small population and this is mainly concentrated in a narrow strip along the eastern coastline. Consequently most of Australia is populated very lightly and people living in the Australian 'outback' are faced with a style of life which is rather isolated.

Australia has responded to this situation by the development of an extensive system of distance education programmes. Unlike countries like India, and Thailand, Australia does not have a centralised system of distance education. More than a dozen universities share the major responsibility for distance education provision and many other have smaller programmes.

In recent years, the Australian Government has established another mode of off-campus study--Open Learning--together with a new organisation to manage it--the Open Learning Agency. The Agency is a brokerage organisation. It contracts with existing providers to offer individual subjects and then markets those subjects to prospective students without any prerequisites. Students can complete degrees by combining subjects from different providers.

The majority of the programmes offered by distance education in Australia are in fields of study which do not require a high practical component ten years ago, they were mainly in the areas of business studies, education and the humanities. However, over recent years the government has encouraged a broadening of the range of subjects which are offered. One of the areas that is still not well served is practical art. No doubt, one of the reasons for this is the difficulties that distance creates for teaching subjects which have traditionally been studio based. Benson and Rye(1995) describe a study on a programme offered by Monash University Gippsland and Braben(1995) describes a study on another programme at Griffith University.

TEACHING DRAWING AT A DISTANCE

Values in Art Education

The importance of a practical education in the arts is linked to the significance of the arts within a culture. The arts are in fact the culture made manifest. A community which is engaged with and responsive to the arts is one which has sought to cultivate a celebratory and reflective culture.

An individual's decision to study in practical art may have arisen from a desire to acquire some basic pictorial skills for use in recreational or professional endeavours. Any practical art subject ought to be able to meet this goal. However, a comprehensive and sound education in the practical arts should not just impart information and develop facility, it should encourage an intellectual engagement and aesthetic involvement that will ultimately open the door to personal expression.

An introductory unit of study should also afford some sense of the accessibility of art. Yet, at the same time, it should give a glimpse of the expansiveness of the field. A vital experience of art should stimulate both apprehension and comprehension--the former arousing a sense of wonder and astonishment, the latter opening access to that realm. Within the 'part' that is studied there needs to be some sense of the 'whole'.

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Making Your Mark in Drawing

The Drawing program at RMIT University establishes a skill base for dealing with conceptual, perceptual, aesthetic and technical problems in the fine arts. Because drawing plays such a definitive role in the early stage of an education in the visual arts, the program is designed to equip students with a battery of skills which will make them visually fluent.

Making Your Mark in Drawing is an introduction to drawing in the Fine Arts. The unit is mainly orientated towards drawing from observation or perception. However, parts of the unit--particularly towards the end--are designed to encourage students to experiment in working conceptually; that is, in dealing with the creation of images that have their origin in ideas. The aim of the unit is to provide a foundation in the discipline of drawing that facilitates and sustains the conceptual generation of practice. The main focus of the unit is toward the visual realisation of ideas and images, and the nurturing of intellectual and intuitive responses into a sustained and authentic personal imagery. Ultimately, the unit is concerned with the development in students of an assured sense of identity as professional practitioners within the fine arts.

The students who take Making Your Mark in Drawing

Some insight into what students seek from taking the unit is provided by the assessment. The Open Learning Agency has a policy that all units offered through the Agency should include some form of invigilated assessment. This requirement is usually satisfied by a formal examination. However, a written examination is not an appropriate form of assessment for a unit in practical art. The way that Making Your Mark in Drawing satisfies the requirement is to have students write a reflective piece on the impact that participation in the unit has had on their art. The highly personal accounts that students' provide enable the tutors to gain a unique insight into students relationship to the unit and their hopes for what they will get out of it.

It is frequently acknowledged by students that what was an initial interest in making pictures has brought them to a position of philosophic reflection. What is evident from the contact being established is that for many the contact was in fact with themselves. Especially in the case of mature aged and middle aged students, one frequently feels that students are returning to a significant and intimated part of themselves which was long ago obscured by the complexity of their circumstances. This may be so of all education, but one is more conscious of it in distance education because the communication is private and students are often willing to communicate to their tutor that which they would otherwise keep secret.

One suspects that part of the Open Learning clientele would lack the initial confidence to expose themselves and their work in the more public forum of the art school studio with its many competitive egos.

It would also appear that a significant proportion of the students registering in the Open Learning programme are 'testing the water'--cautiously checking to see whether they are suited to tertiary academic study. Some are clearly endeavouring to accumulate the credit points towards a degree and will continue to do so through a distance learning mode. Others will later apply to university for conventional enrollment.

A minority of the candidates are interested in picture making at a hobbyist level. However, the programme is concerned with a fundamentally different kind of learning from that which 'How to do' books available in book shops encourages. One suspects that students in this program, introductory as it is, go qualitatively and quantitatively beyond the parameters of the hobbyist pastime.

A Potential conflict of goals

In schools of contemporary art, there is on-going debate about the impact that the process of instruction has on the central values of the artistic enterprise such as cultural diversity, the subjective autonomy of the individual practitioners and the ambiguities of art with its metaphoric codes of interpretation. This problem is exacerbated in distance education by the fact that the instruction needs to be communicated clearly and directly. The form of communication which is advocated for the effective

delivery of courses at a distance may therefore be considered in artistic terms to be overly didactic, dogmatic and sterile.

Art is subtle and enigmatic. Although some aspects of art may occasionally be definable, art is essentially elusive. Like the concepts of truth, beauty and God, art retains profound cultural and personal significance yet defies precise definition. The avante garde artist views art as a history of revolutions--a discipline that must expand itself with every challenge to and rebellion against its canon of practices. Despite its physical manifestations, art is abstract and intangible. Fugitive as it is for most writers and indeed most artists, art is a problem, so much more is its transmission in education and further its translation through the means of distance education.

The implementation of Making Your Mark in Drawing might initially appear to be simply the provision of information and instruction and the conduct of assessment, but the underlying structure of the program is more significant than surface appearances convey.

The technologies used to deliver a program in art will also impact significantly on the way the program is designed and the way it is used. Whatever the available resources, whether in written or video or digital mode, distance education in art must give regard to the means of comprehension upon which art education is founded.

The Paradox of Paradigms

People learn by two processes--by logic and by intuition, by thinking and by feeling, by reading the instructions and by engaging in the experience, by research and by experiment, by following the map and by following their nose.

Two of the great and enduring themes in western art owe their energies to this division. Historically, they have been referred to as classicism and romanticism; in contemporary art they are referred to as formalism. Put in more general terms, they are the art of the intellect and the art of the emotions.

Most people display a preference towards one of these themes and an antipathy towards the other. Such a bias does not disadvantage the student in art unless it absolutely prohibits engagement with the complementary.

This duality described above: echoed in other competing concerns within intellectual consciousness and art education :

- The limitations of the part(microcosm) and the fullness of the whole
- The condescension of instruction and the transcendence of intention
- Logic and intuition;
- Objectivity and subjectivity;
- The conceptual world of ideas and the perceptual world of images;

There is a commonality here which reflects the existence of the two paradigms which underlie all of these concerns.

During their studies, many art students encounter a period of bewilderment in their practice and in their discourse. This experience can be deeply frustrating for them because very often they have done everything correctly, yet satisfaction still eludes them--the truth that they sought now seems to be false; the order that they were trying to produce has turned to chaos; their pursuit of the sublime has led to the banal; the search for the unique has found cliché; their ambitions for a transcendent imagery have led to achievement which is pedestrian.

Such perversity need not always be negative. The initial disappointments are quite often reversed. What at first seems like misfortune often yields benefits later. A remark which is commonly heard of in painting is that each painting is a battle between the artist and the painting- 'If the artist is lucky, the painting will win'.

An artist/student's work will occasionally provide revelations about themselves that are unexpected. Conservative practice might become avante gardist; the radical might lead back to traditionalism; the melancholic will find irony and humour; and the art of the optimist might arrive at utter emptiness.

A student may at some time encounter such a crisis. Perhaps it should be welcomed as one of the rites of passage to a life in the arts. Most artists seek the truth. However, art is tied to artifice and the artificia.

Art is a lie by which we tell the truth.

Pablo Picasso

All right call them lies if you will, but they are more exact than the literal truth.

Vincent Van Gogh to his brother, Theo

The artist - and the student should function as both a creator and a critic. In this context the artist should shift in an out of the 'logical' and 'intuitive' attitudes to the work in progress. Within the intimate range of arm's reach the picture is subject to a subjective process; when periodically the artist steps back, he or she is endeavouring to make an objective judgement.

The process of knowledge acquisition in art, as in many disciplines, is a partnership of the logical and the intuitive faculties. The key to having students reconcile the competing goals in art education is therefore to have them recognise these goals as complementary rather than conflicting to understand that neutralisation of the thesis/antithesis stalemate comes from the attainment of a synthesis. Such a synthesis can be identified in European art with the origin of contrapposto as a structure within the tradition of the human figure.

The example of Contrapposto

Contrapposto is a term which is used to describe the posture of the human body when it is poised between repose and action. The position is typified by a subtle S bend rhythm. The contrapposto is the characteristic posture of the human figure in classical art. The Venus de Melo, the Hermes of Praxiteles, the Apollo Belvedere from antiquity and the 'Davids' of Donatello, Verocchio and Michelangelo from the Italian renaissance are all contrapposto figures.

The contrapposto makes a relatively recent appearance in art. In Egyptain imagery the human figure acquired an extreme degree of sophistication. Yet surprisingly, amongst the many thousands of figures made over thirty centuries no contrapposto figures can be found--no standing scribe, no slave or pharaoh shifting their weight from a tiring leg to the left or to the right.

Archaic Greek art initially continues the tradition of symmetry followed by the Egyptians. Then in 470 BC the sculptor Kritos carves a youth whose left leg has taken the greater weight of his body to allow the right leg to relax. This is a revolution in both the perception and conception of humanity, Kritos' figure is shifting with a subtle restlessness and this has implications throughout his body--a crest of flesh has folded above the hip on the left side and has stretched on the right; the pelvis has tilted; the right knee is forward; the left heel--an absent fragment--has lifted slightly from its plinth; the shoulder do not yet tilt, but the head, very significantly, has glanced a few degrees to the side. The figure is released but more importantly the gaze is released. The figure is beginning to occupy and address the empirical world. A pandora's box of human potential is opened and for a comparatively brief but profoundly influential period the human image is represented in a subtle dynamic of restraint and liberty. This is the classical. We see it in various guises until its dramatic revival in the High Renaissance.

Reconciling appatent dualities is thematic within the art disciplines as indeed it is in human--nature and one of our most important tasks in the project was to find ways of achieving this for our students.

Reconciling the Paradigms in Making Your Mark in Drawing

In developing making Your Mark in Drawing, a number of strategies were used to reconcile what were seen as the complementary goals of the unit:

- combining didactic instruction with practical activities
- use of different 'voices' to distinguish the different functions of the text
- use of illustrative examples

- the use of a structured approach in the development of the learning package in order to ensure that an appropriate balance is obtained between the various components.

In the face-to-face drawing program, students learn by engaging in a succession of drawing projects. Tutors interact with the students mainly by watching their work progress and commenting on the results.

In Making Your Mark in Drawing, the focus is still on the work that students themselves create. The instructional material features much more prominently. The program alternates between instructional passages which are of an essentially technical nature and project activities. Yet unlike traditional distance education units where activities simply serve to provide students with feedback, the activities in Making Your Mark in Drawing from the core of the unit.

Different components of the instructional text perform different teaching functions. The alternation between didactic instruction and student activity is modulated by changes in voice within the text. The range of voices that are used include:

- I*nstruction*--unequivocal, didactic descriptions or procedures
- *suggestion*--equivocal presentation of optional strategies
- *encouragement*--coaching statements included to reinforce the morale and confidence of the student;
- *critique*--analysis of some interpretations provided in anticipation of students responses; also encouragement for the student to engage in self critique;
- *reflection*--a form of self critique more meditative and free in character than focused criticism;
- *commentary*--remarks, observations, ironic and humorous comments, anecdotal narratives and asides and importantly expressions of equivocation and doubt;
- *quotation*--acknowledged quotations from other persons/scholars/artists that might reinforce or provocatively contradict statements made in instruction.

These changes in voice are flagged by visual clues such as changes in heading type, typestyle, and indentation.

The illustrations used in this program are taken from a variety of sources including historical art sources from the antique to the contemporary. This includes images from drawings and from other fine art disciplines. Most of these examples are from western cultural traditions. However, references are also made to the arts of non-western cultures. Works of students from RMIT are also used within the program and in any subsequent productions of similar programs we would benefit from the availability of selected work of current users of this program.

The method that was adopted in the development of Making Your Mark in Drawing placed more emphasis on the initial structuring of the unit than is often the case in distance education materials development(Inglis and Bradbeer, 1996). The process involved making a detailed analysis of the intended outcomes of the unit in terms of the capabilities that students are expected to acquire in relation to their functioning as artists in the 'real world'. Rather than focusing on contrived outcomes, such as being able to recite definitions or describe processes, it focuses on 'real world' functions such as distinguishing between concepts and performing functions. Such analysis is then extended into the identification of practice activities which can be expected to produce these outcomes, of the resources needed to support the activities and the time needed to complete them.

Many art educators might want to argue that the method is antithetical to the goals of art - that art is principally an intuitive discipline and that attempting to specify the outcomes of an art program destroys the very thing that the art educator is trying to create. However, a more optimistic stance was taken in this particular project; intending that by striving better to understand each others' goals and rationales it might be possible for the instructional designer and the art educator to find common ground

Conclusion

The most visible manifestation of the success of the strategies that have been employed to meet complementary goals in this program are the drawings made by the students. Some are insubstantial, many are, to use teachers' terms, satisfactory; however, some are extraordinary.

The submissions that are weak cause one to question the way the program works. Yet their uncertainty and awkwardness can disclose the vulnerability and the naivete of students with discomforting directness. Often, when the student experiences the doubt and perplexity of the apparently unresolvable dilemma the naivete of the beginner is being shed and a richer and a more complex world is beginning to be being perceived.

A sufficiently substantial body of the work received, liberates itself from the directives and encouragements of the study guide to appear unique, individual and free. To see one's students airborne as it were, gives us the satisfaction that affirms our commitment to this profession. The reception of extraordinary work, confirms the view that the program is a mold that must be cracked to liberate form. When fine art is made, the structures of its making are an irrelevance and its teachers have beocme obsolete.

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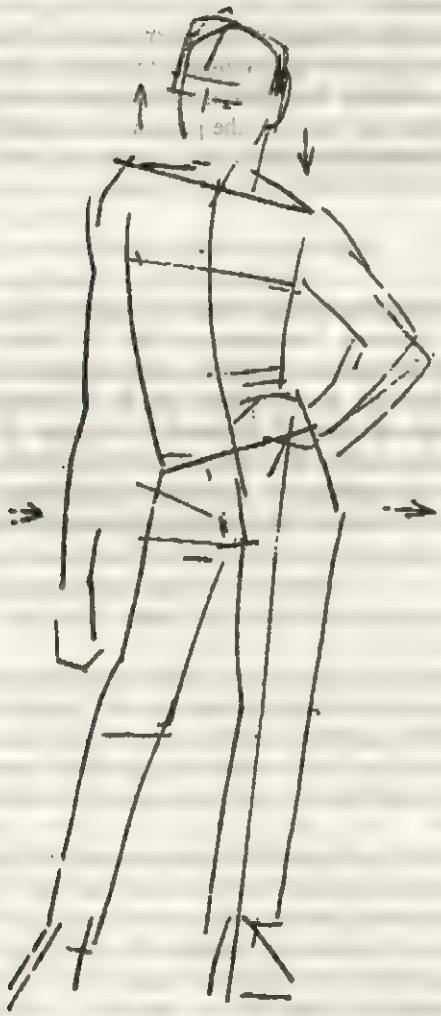
The Contrapposto Figure



Studies of System of Distance Learning by the Use of Interactive Video Via ISDN (2B + D)

Shigeru Wakamatsu[1]

Introduction

In the last decade, a videoconferencing system using compressed video technology with a low bit rate of 64 kbs or 128 kbs has been developed. The significance of this low speed is that it is adaptable to the basic rate interface services of ISDN. It has been developed to the stage that it is possible now to use it for interaction throughout the world.

The low bit rate videoconferencing system is increasing in popularity because of its complete interactivity in voice and picture at the highest cost efficiency, that of the cost of a standard phone call. The system was in great demand during the recent Persian Gulf War. From an educational aspect, this videoconferencing system was thought to have the potential to assist two-way teaching at a distance.

In 1988, the National Institute of Multimedia Education, Japan started to examine the educational use of the system with "INVITE 64" via NTT's ISDN services of INS-Net64, in co-operation with KDD, VIDEOCOM International Incorp. together with the University of the Air, Japan (1). As a result, it was thought that the low bit rate videoconferencing system may have an application in small sized classroom teaching, group interviewing, seminar, or learning guidance. Problems were obvious in the quality of voice and motion picture but it was thought these could be improved by technological and pedagogical development. This experiment took the initiative in world educational use of the low bit rate videoconferencing system.

Early in 1991, language teaching between Japan and Australia using 64/128 kbs videoconferencing via international ISDN was successfully undertaken. The parties involved in the experiment were the National Institute of Multimedia Education, the University of the Air, the University of New England, Sony Corporation and Telecom Australia (Wakamatsu, et al. 1989).

From that time on, rapid progress of compression technology led to new versions of low bit rate videoconferencing system, which included a version of an acceptable picture quality even at the presentation of four locations on the screen simultaneously. Also the system has become available at much lower price than earlier.

The objectives of the present studies were to evaluate the acceptability of the latest 64/128 kbs videoconferencing system for the lifelong learning at a distance, as well as to constitute a lifelong learning network which links locations of rural public halls with educational institutions via cost effective ISDN(2B+D).

Experimental

Experimental tutorial sessions were transmitted from Koriyama Women's University to public halls by 64/128 videoconferecing system via ISDN. During the course of the present work 1994-1996, at the first stage study in 1994, the Universtiy linked with a single public hall, while in 1995-1996 two to four public halls were linked to the University in ring mode.

Pedagogical evaluation of the system was done by student's questionnaires of five ranks rating the educational aspects and human factors after each session.

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System

A lecture room at Koriyama Women's University(KWU) and four rural public halls at Atsusiokanou-Village(AV), Otama-Village(OV), Kagamiishi-Town(KT) and Hanawa-Town(HT) in Fukushima prefecture had generally installed Haitachi DP-200 Desktop Videoconferencing System(at the first stage) or Hitachi HV-300 Telephovision(at the second and the third stages) both with optional micropones of Victor MZ-110.

A microphone of Audio Technica US and a presentation apparatus of Elmo EV-368 were also used during seesions at the lecture room. The size of screen were 43(KWU), 25(AV), 32(OV), 21(two branches of HT) and 41(KV,HT) inches.

Session Schedule and Result

(1) The first stage: a single connection(from KWU to each of HT and AV)

	to HT	to AV	to HT
Date and time	29 June, 1994 8:20-9:25pm	21 July, 1994 8:20-9:40pm	31 December, 1994 7:30-9:00pm
Nos. of Student	8	25	7
Theme	Food science	Issue of foreign rice	Baby food, Parent & child
Tutor	Dr. I. Shoji	Dr. I. Shoji	Y. Ishimura, Y. Shibahara

(2) The second stage: a triangular connection

Case 1: from KWU to two branches of HT-1 and HT-2, at a time

Date and time	8 February, 1995 7:20-8:50pm		
Nos. of Student	HT-1:10, HT-2:7		
Theme	Food science	Baby food	Parent & child
Tutor	Dr. I. Shoji	Y. Ishimura	Y. Shibahara

Case 2: from KWU to AV and HT at a time

Date and time	27 July, 1995 7:30-8:50pm
Nos. of student	AV: 13, HT: 14
Theme	Pickles
Tutor	Dr. K. Kaneko

(3) The third stage: a pentagonal connection

Tutorial sessions were transmitted from KWU to four sites (AV, OV, KT, HT) in a pentagonal connection.

	The first term	The second term
Date and time	18,25 June 2,9,16 July (on Tuesday every other week) 7:00-8:30 pm	29 October 5,12,19,26 November (on Tuesday every other week) 7:30-8:30 pm

No. of Students

	June 18	*25*	*July 2*	*9*	*16*	*Total*	*Oct.29*	*Nov.5*	*12*	*19*	*26*	*Total*
AV	4	3	3	3	5	18	3	3	5	5	3	19
OV	18	13	9	6	7	53	4	5	7	4	3	23
KT	16	15	12	12	12	67	8	10	9	8	8	43
HT	6	5	5	5	4	25	3	7	11	7	4	32
Grand Total						163						117

Theme	A life worth living. Pleasure in life food culture	Mushrooms in Japanese
(Tutor)	(Y. Kokuma)	(Dr. M. Hiroi)
	Parent bring up together with child child (H. Sekiguchi)	Paintings of mother and (M. Saito)
	Daily food for healthy living (K. Yamada)	Bacteria 0157 (Dr. T. Sumino)
	Westernization and change in clothing (M. Tanabe)	Nutrition for healthy life (S. Suziki)
	Woman painters, east and west (M. Saito)	Cooking for healthy life (K. Sahara, Y. Ishimura)

Evaluation

Evaluation of the system and the teaching method were done by student's questionaires of five ranks rating the educational aspects and human factors after each session.

Figures 1 and 2 showed the mean scores of the responses of students at the first stage experimental session transmitted by a single connection (Figure 1) and that at the second stage experimental session transmitted by a triangular connection (Figure 2).

Questionaire

(1) Motion picture was distinguishable
(2) Letter was readable
(3) Still picture was clear
(4) I had not fatigue of eye
(5) The screen size as suitable
(6) The teacher's voice was clear
(7) Sound volume was suitable
(8) I felt close to the teacher and other site
(9) It was just like being in a traditional classroom
(10) It was easy to ask questions
(11) It was suitable for tutorial session at a distance

5: Strongly agree 4 : Agree 3 : Uncertain
2 : Disagree 1 : Strongly disagree

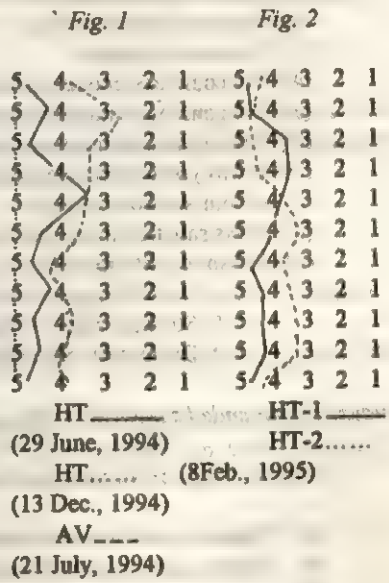


Figure 1

In the same way, same way, Figure 3 showed the mean scores of the responses of HT student to the evaluation statements related to five sessions individually at the first term of the third stage. On the other hand, in Figure 4, the overall comparison was made between the mean scores of four sites students to the evaluation statements throughout five sessions at the second term of the third stage.

Questionaire

Fig.3

(1) Motion picture was distinguishable
(2) Letter was readable
(3) Still picture was clear
(4) The screen size was suitable
(5) The teacher's voice was clear
(6) Sound volume was suitable
(7) I felt close to the teacher and other site
(8) It was just like being in a traditional classroom
(9) It was easy to ask question
(10) It was suitable for tutorial session at a distance
(11) Lecture was easy to understand
(12) Lecture was interesting
(13) Teaching method was good

5 4 3 2 1

5: Strongly agree 4: Agree 3: Uncertain
2: Disagree 1: Strongly disagree

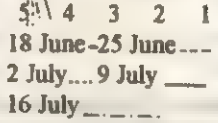


Figure 2:

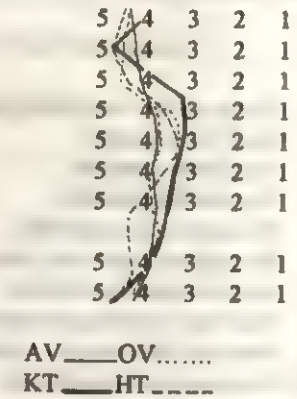
Questionaire

Fig.4

(1) Lecture was enjoyable
(2) Lecture was interesting
(3) Lecture was useful
(4) We could ask enough questions
(5) We could well interchange with other site
(6) Session was well interactive between tutor and student
(7) It was good of changeover mechanism from a single site to four sites on the screen
(8) I was satisfied throughout the session
(9) I wish to participate in this session in the future

5 4 3 2 1

5: Strongly agree 4: Agree 3: Uncertain
2: Disagree 1: Strongly disagree



Student's open ended comments to the system and teaching method :

To the first stage experimental sessions by single connection.

a) Optional microphones should be equipped to keep good sound quality.
b) Small sized classroom was preferable for this type of session.
c) A big statue of tutor shown on the screen was advisable as big as lifesize.
d) Teaching materials should be sent to the student in advance of the session, because transmitted graphics and letters were often out of focus.
e) The interaction was sought between tutor and student during the session.

To the second and the third stage experimental sessions by triangular and pentagonal connection.

a) Principally, tutor's picture should be shown on the screen throughout the session. Pictures of student's site were shown occasionally, in particular at "the question & answer" between tutor and student or student with each other.

b) Tutor was advisable to avoid quick motion, because time difference between voice and motion is conspicuous in the ring mode connection.

Conclusion

Experimental lifelong learning at a distance between University and public hall with low bite rate videoconferencing system via ISDN (2B+D) was very successful.

There were a number of general observations that could be made regarding the data collected during the course of the present studies.

The following points could be made regarding the responses of students. Based on the mean scores, students generally rated two items most positively at the first stage experiment: 'Motion picture was distinguishable" and "The system was suitable from tutorial session at a distance". On the other hand, at the second term of the third stage, four items were rated most positively: 'Lecture was enjoyable", "Lecture was interesting", "Lecture was useful" and "I wish to participate in the session in the future".

It would be sure that the qualities of the motion picture and the sound of the video-conferencing system were acceptable for students. In addition, the contents or theme of the lecture had serious effect on student's evaluation of the system. Contents of the lecture were desired to concern specialized items of close at home problems, explaining of current events, fine arts and also a sort of calisthenic exercises.

Open ended comments by students were quite positive. They pointed out that more inter-action should be sought during the session, as an interactivity was one of the most important feature of the system.

Through these studies, with most recent economical multipoint connection service : 'Multipoint Videoconferencing Services" started at the beginning of August 1997 (1), it must be sure that the low bit rate videoconferencing system via ISDN(2B+D) can effectively be realized in lifelong distance learning.

Note:

NTT phoenix Communications Network, Inc. just started this Services, at the beginning of August 1997 for all the videoconferencing system based on ITU-T international standard H.320. The Services is said to link up to one thousand points theoretically at a low price.

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Distance Higher Education in India : Potentialities in the Next Millennium

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Lajwanti[2]

Introduction

With a new millennium on the horizon, a dawn of new expectations in all human endeavours has begun. In the field of education in India disillusionment with the conventional system has led to the necessity of a revolutionised system that will help fulfill national aspirations.

The conventional system is now seen as one 'designed to meet the needs of an imperial administration within the limitations set by a feudal and traditional society " (Education Commission, 1964-66). Obviously, such a system has no place in the coming millennium, especially in a country which has pledged itself to socialist, secular and democratic ideals.

Three major weaknesses have been identified in the conventional system of education in India (U.G.C., 1980) ;

a. It is dominated by models and value systems of the colonial regime laying greater emphasis on narrow individualism, verbal fluency and mere acquisition of information while neglecting social good, manual work and character building.
b. The system has promoted double standards in education. There is a small minority of quality educational institutions catering to the socio-economically top groups, whereas, the masses have to satisfy themselves with poor quality institutions.
c. The benefits of the system have not been distributed equitably, the upper and middle classes being the principal beneficiaries.

Besides, these imbalances, other basic problems plague the system like irrelevant curricula, uninspiring teaching methods, a rigid mode of admission, study and evaluation, etc. In view of these fundamental deficiencies in the system what is needed is not temporary patchworking but a complete overhaul so as to reorient the system in its entirety. It is in this context that distance education is gaining increasing importance as a tool for overcoming the deficiencies of the conventional system and providing fresh moorings to education not only in India but the world over In fact, it is fast emerging as a discipline in its own right.

Unfortunately, however, distance learning is looked down upon as a second grade alternative. An attempt has been made in the present paper to explore the potentialities of distance education, in the context of higher education in India, as an innovative system of education for the coming millennium.

In view of the fact that distance education has different connotations for different people, it may be noted that for the purpose of the present paper the term has been used in its wider sense encompassing the concept of 'open education' rather than in the sense of correspondence education' which is merely an extension of the conventional type of education (Koul, 1988 (a) :).

Characteristics of the Educational System of the Future

Before beginning to examine the worth of any system it is necessary to set up the criteria on the basis of which its worth has to be evaluated. The criteria needed in this case are the characteristics of the overall education system that the Indian people aspire to build for the coming centuries. These criteria must be of relatively lasting value so as to provide a long term perspective for educational policy. Such a frame of reference can be found in the Report of the Education Commission (1964-1966) the recommendations of which are yet to be fulfilled. Talking of the 'Educational Revolution' needed to fulfill national aspirations the Commission talks of three basic characteristics of the new system :

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[2] Faculty of Education, Dayalbagh Educational Institute (Deemed University), Dayalbag, Agra.

- **Internal Transformation:** so as to relate it to the life needs and aspirations of the nation.
- **Qualitative Improvement:** so that the standards achieved are adequate and at least in a few sectors, become internationally comparable, and
- **Expansion of educational facilities** broadly on the basis of manpower needs and with an accent on equalization of educational opportunities.

To the above criteria visualised by the Commission may be added another criteria which is a necessary precondition for the existence of any system. This criteria is '**Viability**', chiefly economic and socio-political. These dimensions may be summed-up as three broad characteristics of the desired system of education, namely :

- **Relevance,**
- **Excellence,**
- **Access Coupled with Equity, and**
- **Viability.**

These four criteria may be considered as the proper foundations of any good system of education. In the context of these basic but challenging demands the potentialities of distance education in building a new educational paradigm will be discussed.

Distance Education and Relevance

Relevance of the educational system to the needs and aspirations of the learners as well as the society at large is considered to be the basic characteristic for the justification of its very existence. The system of distance education can contribute to this aspect in several ways.

Firstly, distance education is capable of offering courses that are more specialised and hence of greater individual relevance What formal classroom teaching can offer to the group are generalistic courses which cannot meet varied requirements relevance (Koul, 1988(b)) A post-graduation course in English, for instance, will have a clientele of widely differing motivations--business managers, school teachers, civil administrators, creative writers and housewives. It is not possible to cater to the individual requirements of these varied categories through group instruction and neither is it feasible to run such a variety of courses in English in an ordinary degree college with its limited resources. In distance education, however, it is possible to run several such courses and individual learners may choose the English course which suits their requirements.

This is possible in the distance learning system because of its modus operandi of centralised production of courses coupled with decentralised distribution covering large areas. Thus, it is possible to run courses for which there is small demand at one particular place. A look at the variety of courses run by an open university, IGNOU for instance, proves the point. Besides the regular graduation programmes it offers courses in Rural Development, Financial Management, Computer Applications, Creative Writing, Food and Nutrition, Library and Information Science, etc. Thus, courses of greater practical value to individuals are being run in the Open Learning System. They also have a marked orientation towards employment and continuing education of employed manpower (National Policy on Education, 1986). Infact, through its programme of continuing education, the distance mode can play a key role in developing a 'learning society' on large scale.

Moreover, distance education also helps the learners to choose course combinations to suit their interests or requirements. Thus, though combinations like Physics and Philosophy may not be possible in the conventional system, they are available in the open learning system.

Further, the mode of instruction in distance learning is relevant to the individuals needs, matters of duration and pacing of courses depending largely on the learner's convenience Incidentally, the individualization of higher education is also in consonance with the increasing trends of privacy in the modern technology based society (Smith, 1987).

There is yet another challenge of relevance which the formal system fails to meet. Due to rapid technological advancements we are experiencing an explosion of knowledge which, it is estimated, doubles in volume every 7 to 8 years (Takwale, 1987). If an educational system fails to keep pace with this new knowledge it faces the danger of obsolescence. This challenge demands rapid and continuous changes in the courses offered. But in the formal system due to its spread out and elaborate structure, large investments and massive efforts are needed for updating men and material. Comparatively, updating the distance learning system, where men and materials are centralised, such changes are easy. Specialists in various fields can be involved in

renewal of material and training of personnel. Thus, continuos curriculum renewal and staff training which is necessary for keeping courses relevant to the changing times, has more scope in the distance mode.

To sum up the proposition so far, the criteria of relevance is met by distance higher education in several ways, namely :

a. courses are of greater practical and social relevance
b. the mode of instruction is tuned to the individual learner's requirements, and
c. the potential for continuous curriculum renewal and staff development is greater.

Distance Education and Excellence

In a world of increasing competitiveness and rapid globalization, our future system of education must prove its worth on the anvil of quality. Quality control in any organisation is no longer a desirable goal but a necessity for its existence. What is the potential of the distance learning system in the face of this challenge?

The effectiveness of the distance mode of education has been suspect by the academic community itself who regard it as an inferior option for an inferior lot of students who are unable to get admission into or attend regular courses. That this notion is incorrect and only a culturally induced bias is proved by a case study which was conducted on teacher trainees of English from the Central Institute of English and Foreign Languages, Hyderabad (Koul, 1988(b)). In the study, the performance of two samples of teacher trainees, with 18 participants in each, were compared, one group being correspondence students and the other regular ones. The respective scores at the terminal examinations were taken as the criterion for comparing the effectiveness of the two modes. After controlling intervening variables like the basic abilities of the students, the difficulty level of questions and the examiners, the performance of the students in three subjects were compared. The average scores indicated better performance of correspondence students in two subjects and of regular students in one subject. The conclusion of the study was that face to face education does not show any significantly intrinsic advantage over correspondence education.

Similar conclusions have been reached by studies conducted even outside India. To quote Rumble, "many such comparative studies have been carried out. The general, conclusions from them are that it is factors such as the pedagogical quality and clarity of presentation, the relevance of the content, and the motivation and interest of the learners which are significant variables rather than the particular medium of instruction" (Quoted in Koul, 1988(b)).

The academic credibility of distance education is, therefore, in no way less than formal education. The potential of distance education in bringing about quality improvement vis-à-vis conventional education will now be discussed. The factors which seem to affect the quality of education as evident from the above mentioned studies are essentially the men and material involved.

As far as the factor of 'men' is concerned the academic staff recruited in distance learning institution is more limited and centralised as compared to the formal system which requires a large man power spread over a large number of separate institutions. Practically, therefore, the possibility of recruiting specialised and competent men and conducting regular programmes for staff development is greater in distance learning than in the formal system.

The other issue relates to 'materials'. The materials provided in distance learning are developed by a team of experts having access to the best of resources. These materials are in most cases no match for the content provided by individual lecturers of degree colleges having access to limited and often outdated resources. Further, the quality control of distance learning material is far more rigorous than in the case of conventional system where quality control of classroom teaching is almost absent. To quote Fred Jevons (1987), "What goes on in the privacy of tutorials is one of the great mysteries of the natural history of campuses." On the other hand, he points out, "Distance Education materials have a permanent physical existence... They are subject to criticism, and open to improvement through criticism". Again John Ferguson points out in the British context "In most British Universities the number of good lectures is small and the number of bad lecturers is large" (Quoted in Ramanujam and Koul, 1988). The Indian scene is not any better. In contrast, every lesson prepared in open university is well tested and its quality is ensured. Infact, it is now observed that students of the conventional system are reading materials prepared by Open Universities (2-3; Jevons, 1987). Thus it is now accepted that distance and open learning institutions have a far better quality control mechanism than the conventional system.

Besides this, the potential for quality improvement is greater in the distance learning system for several other reasons.

a. With centralised resources the possibility of experimentation, innovation and curriculum renewal is substantially higher. Also, international level of expertise can be employed in production of materials.
b. At the level of learners it promotes the skills of autonomous learning--an ideal aspired for in higher learning.
c. It helps promote uniformity of standards all over the country thus eliminating qualitative imbalances between one region and another. This potential is bound to increase with the linking up of all open universities through networking as proposed recently by Prof. Takwale, V.C., IGNOU (Rajagopalan, 1997).
d. By relieving the pressure of admissions on campus based study, it helps promote better standards in the formal system too.
e. The use of information technology can make distance learning pedagogically as effective, or even more, than conventional learning.

Distance Education, Access and Equity

The problem of access with on accent a equity is a major concern of any democratic society. This, complex problem consists of varied dimensions like :

a. reaching large numbers, quickly and economically.
b. reaching the socio-economically weaker classes.
c. reaching the working population who cannot study on a full time basis.
d. reaching the dropouts of the formal system who are not allowed re-entry into the system.
e. reaching isolated or sparsely populated areas where colleges and universities cannot be opened.

Regarding the problem of providing access to the large numbers in view of the economic limitations faced by the government, distance education seems to be the only viable mode available. This has been proved by an empirical case study concerning the training of teachers of English in the country (Koul, 1988(b)). According to its conclusions, in order to train all teachers of English through the available language teaching institutes of the country the time required was estimated to be one hundred and seventy one years. This is clearly not desirable not only because of the inordinate delay, but also because during this period the additional number of teachers requiring training will reach astronomical proportions. On the other hand, if the second alternative of increasing the English teacher training institutes is considered, the budgetary provision were estimated to increase four-fold. Keeping in view the so called "social over investment in higher education" in India such an increase in only one aspect of education is neither feasible nor justifiable.

A number of studies on the comparative costs of distance and conventional education have been conducted. They all indicate that the unit cost per student in the distance learning system is far less than that in the formal system. Ansari (1992) in his cost effectiveness analysis of distance education in India concludes that provided the number of enrollments is beyond a threshold level (5000 plus) the average cost per student in the distance mode is merely 15-25% of the cost in the formal system. Other studies conducted outside India have reached similar conclusions (Azad, 1987). Thus, distance education, without incurring large investments of money and time can meet the ever growing demand for expanding higher education in India.

Further, widened access to higher education through the distance mode is liable to benefit the socio-economically weaker sections too as (a) the personal costs of education (including expenditure on books, commuting, hostel, etc.) are estimated to be lower and (b) the learners need not give up their jobs which provide them their daily bread in order to study.

Next, distance education extends access to working people and housewives who cannot attend full time study programmes. Part-time courses with similar advantage are also available in the formal system but these can be attended only by those staying within approachable distance of the campus. On the other hand, distance education removes the distance barrier thus promoting wider access. Distance education also has the potential to reach the remote, inaccessible and sparsely populated areas which are beyond the practical reach of the formal system. Distance education provides access to yet another sizable section of the Indian society-those who dropped out of the formal system at some stage and are branded as rejects or non-eligible for re-entry into the system. Thus we see that distance education can not only extend the reach of higher education to greater

numbers within reasonable time and funds, but also makes it accessible to the deprived sections of the society including women, tribals and the socio-economically weaker groups, thereby converting education into a powerful instrument for democratization and de-elitization of the education system and the social system in general.

Distance Education and Viability

As far as economic viability of distance education is concerned, it has been pointed out earlier that because of the economies of scale possible in the distance mode it is more cost effective as compared to formal education. The cost function of distance education has been expressed as:

$$AC = F/N + V$$

where

AC = Average cost per student
F = Fixed cost
V = Variable cost per student
N = Number of students

Here variable costs (V) are those determined by the number of students (N). In the formal system variable costs include investments in teachers, classrooms, laboratories, hostels, etc. Thus, with an increase in the students, additional expenditure on such items increases in the formal system. However, these costs do not rise to that extent in the distance mode. Additional expenditure in the latter mode may be required only for establishing communication with the students. Thus, in the formal system there is a fixed or constant relationship between inputs and outputs. Consequently, there is narrow scope for generating economies of scale.

In distance education, on the other hand, an increase in N does not lead to a corresponding amount of increase in V thus lowering the average cost with increasing enrollment. Data pertaining to the School of Correspondence Courses, University of Delhi has also established that unit cost declines as enrolment increases (Dutt, 1987). Although the results of case studies have to be generalised with caution, yet most of the evidences available conclude that distance education is an economically more viable alternative.

As far as political viability is concerned, our National Policy on Education, 1986 (revised in 1992) accepts distance education as an essential mode for the expansion of higher education in the country with IGNOU playing the lead role. At the state level too the respective governments are in favour of the distance mode. In a significant statement the Bihar University Enquiry Commission points out 'It would be unrealistic to hope that even the most affluent State would have human and material resources to establish traditional universities and colleges of even tolerable quality to meet the over growing demand for higher education" (Govt. of Bihar, 1988)

The motives of the government may be varied in favouring distance education as a mode of future education, but the fact remains that this mode of education has political sanction behind it.

Conclusion

Today both conventional education and distance education are being used for imparting higher education in the country. Conventional education has its advantages like having an environment of intensive study, aiming at all round development of students, etc. and therefore, it may not be desirable to completely uproot it. However, one thing is very clear : conventional education cannot answer the call of the future in modern India.. It has become not only desirable but necessary to resort to the distance mode in education which possesses the potential for:

a. Relevance to the needs of both the individual and the society at large.
b. Excellence in terms of high qualitative standards.
c. Access coupled with equity which can turn education into a revolutionary democratizing force, and
d. Viability: economic and socio-political to ensure its continuance and success.

Only what is needed is that distance education should be developed in its true, innovative sense and not remain an appendage of the conventional system. Granted sufficient resources and autonomy, it promises to become a powerful mode to help fulfill the objectives of higher education in the next millennium.

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Education for all and Teacher Education in India Through Distance Mode

G.C. Bhattacharya[1]

Education For All

The theme of `Education for all' is to see that education should be accessible to all, irrespective of the caste, creed, religion and status of the individual member of the society in a free and democratic nation like India (Bhattacharya, 1995). Certainly, this is a target of high esteem and aspiration to which a number of intervening variables are there, playing the role of agent causing barriers. The most significant and dominant barrier is increasing population of India imposing a great challenge before the educational and administrative policy planners. With the existing rate of population growth it seems next to impossible to avail the provision of even basic education to all learners by the year 2000 A.D. through the formal mode of education. Thus, besides the adoption of population control policies, implementation of innovative educational technologies is the call of the day for extending educational facilities to all as well as to control the quality parameters of the system. For this purpose, a systematic and policy framework is needed alongwith financial and resource based support.

Lack of well trained and good teachers as well as teacher educators, intrinsically motivated enough to function with utmost sincerity and diligence, is another issue. In the existing prevalence of psycho-social pollution in various educational and teacher education institutions in India, availability of such dedicated persons is a problem as they are continuously diminishing in number on account of their failure in the `struggle for existence' in such institutions. Poverty, among the majority of Indian population in general and rural population in particular, is another great reason behind. Poverty begets exploitation of various sorts and as a consequence, a number of related serious issues emerge like child labourer, bonded labourers, custom of early marriage, improper nutrition and health care, wastage and stagnation in education especially at primary stage and so on. Resource flow in urban and industrial centres from the other economic centres plays a dominant role to disbalance the agricultural economy in India. The basic education system in India is not in favour of learning the skills of such ancient and parental occupation and charged with creation of dishonour to the physical labour and rural dwelling and developing a craze for urban life full of luxury, leisure and licence. In this way, rural people in India are afraid of such educational endeavours especially in case of girl. Casteism is another significant barrier. Though we are trying hard to designate the forthcoming century as of caste-less society but caste based tradition and prohibition is still in force, basically in the rural India. Residence in a certain part of a village is still determined by this factor.

Non-availability of good educational institutions and teachers in the distant and delinked parts of the country also creates a serious problem in extending educational facilities to all those who want to avail them. The community of teachers being the most neglected and `powerless' in the present societal structure, they are bound to play the role of `a paid employee' than that of a real `guru', a powerful functionary to bring social change and uplift. In these days of westernisation and modernisation, the student community is also not very much interested in learning and availing the knowledge in true sense, as they are all aware of the social and political truth of the land. No wisdom but tricks, no education but certificates and degrees are the need- achievement for them to fetch all sorts of privileges and monetary benefits and this perhaps modified the whole environment of teaching learning in educational institutions in India now-a-days. The curriculum which is rigid and inactive and non-participatory in nature on the part of the students creates monotonousness and is unable to develop proper attitude and awareness among the learner community. It is basically examination oriented rather than learning oriented in nature.

Similarly, a number of such other variables are there not at all in favour of `education for all' in this land. For example, the quality of education depends basically upon the quality of teachers in the formal mode and the quality of teacher education programme invariably determines the quality of the

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teachers produced through pre-service and in-service programmes. The nature and types of training extended to them alongwith the standard of education availed by them determines the output of good teachers. In other words, the standard and quality of teacher programme, another significant variable, exerts control over the ability and competency gain of teachers who are an essential element in the formal mode of education and all responsible for development of future citizens and true nationals.

Role of Teachers and Teacher Educators

It was remarked well by Singh (1988) that the teachers are personnel and manpower of education who play more positive role in the process of nation building. He added further to elaborate that `Indian situation is peculiar in regard to its educational heritage and prospective expectations. Only a few societies in the world may be so pluralistic as compared to Indian society. There has always been dilemma whether to prefer to advocate for `missionary teachers' or or `professional teachers'. He suggested the synthetic modality to generate professionalism among the prospective teachers. Accordingly, professionalism is required to be considered as the excellence in the pursuance of any skill availed through integrated channelisation of professional efforts and thus a professional must be sensitive to the growth of the skill of optimization of attitude and development of desirable congenial environment for learning and utilization of the skills. This perhaps is the most significant role of a teacher as a professional.

As far as the teacher education is concerned, Singh (1988) clarified that the bottleneck of prevalent teacher education programme in their process of modernisation are dichotomy between perspectives of `roles' and process of `training of the roles'. A number of variables like unintegrated one shot training, lack of opportunities for continuous enrichment, over simulation, antilinearity between simulation and natural conditions, over-dominance of obsolete pedagogy (pedagogical dogmatism), status--quoism, impairment with emerging trend of expected roles, unoperationalised modernity and undue weightage to `machine' aspect of teacher education than `man' aspect, etc. which may be diagnosed and rededicated with a vigour to change and inculcate the qualities of sensibility, responsibility, communicability and reflectivity.

The above discussion indicates that the output of scientific development and technological advancement may be enjoyed but without raising the tendency to perceive the problems educationally and accepting the pivotal efficacy of the teachers and teacher educators sensibly, achievement of the target of `education for all' may remain as mere day-dreaming. Hence, the better and resourceful teacher educators be targeted to be prepared as professionals to meet the requirements of the millions of Indian learners through formal mode or selection of some non-formal mode of education would be inevitable.

Mode of Education and Teacher Education in India

Thus, the second aspect of our discussion is related with the appropriateness of the modes of education in general and teacher education, in particular. The National Council of Teacher Education (NCTE) established in 1993 by an Act of Parliament which has attained a statutory status, developed detailed norms and guidelines for teacher education institutions and programmes designed to train teachers for various educational institutions in India and has categorically recommended the regular mode of pre-service programmes for freshers whereas only the experienced teachers working in numerous recognised teaching institutions without any training qualification may be eligible to obtain such training through a non-regular mode. The Distance Education Council (DEC), another statutory body, has also set up norms and standards for courses and programmes offered through distance mode, including teacher education programmes like B.Ed through correspondence, self-financed programmes, etc. and a number of universities are conducting the same. Since NCTE is not a funding agency like UGC, financial assistance linked control is out of reach of it. Finance is concerned either with the state or the central government and therefore, any norm and standard non-sustainable financially by the funding mechanism may be impractical and inappropriate for the qualitative improvement of teacher education in India (Educational Technology Newsletter, 1997). If the control implied is not being followed in this situation the channel of distance mode for teacher education for the prospective teachers remains open and probability of extending educational facilities to all seems to be possible in this era of privatisation and personalisation of all major endeavours in the society.

The formal regular mode has already proved its non-functionality and inability in this regard to shoulder the monumental responsibility to educate the mass. Continuous student unrest, insufficient number of educational institutions, theory loaded rigid curriculum, deterioration of human and physical resources, diminishing duration of working and thus teaching days, traditional teaching and orientation programmes, lack of proper library, laboratory, workshop and material facilities, existing system of summative pattern of evaluation which has pervaded in teacher education too, division or class dominated certification system, lack of innovativeness and more traditional attitude of teachers and teacher educators, administrative and financial meagre support, defective policy of admission and so on have already undermined the existing formal mode of education well and thus has become impotent enough to function as a dependable form to educate all.

Thus, the distance mode has to be considered as an ultimate way to provide education for all with quality and standard employing educational technology and multimedia approaches. Actually, no mode is unsuitable and unfit for any educational programme but the purpose behind its employing is the important one. NCTE while prescribing the regular mode for prospective teachers is having the objective to ban the commercialisation with business mindedness and profit based tendency as in the field of education it is harmful enough to degenerate the basic characteristics and quality in itself.

Distance Mode

Distance mode assists in individualization of education and meets the requirements of crores of people who desire to avail education with or without having any formal face to face contact. Correspondence programme, radio educational programme, educational television, open school and universities, extension education, inservice teacher education programme, etc. are the various forms or types of it (Srivastava, 1988). Combs and Ahmad (1973) considered it as 'an organised systematic educational activity carried on outside the framework of the established formal system whether operating separately or as an important feature of some broader activity that is intended to serve identifiable learning clienteles and learning objectives. According to Diseshish (1981) it refers to the teaching learning process undertaken where a space and/or time dimension intervene between the teaching and learning dimension. This indicates that the process of teaching may take place somewhere and learning may take place somewhere else and in some other time too, and thus the distance mode used to cross the foundries of time and space and able to cover comparatively a large mass.

In this way, the distance mode of education is beyond the four walls of educational institutions though not informal in nature and brings into practice, all methods and media like printing, mechanical and electronic device based, computers and microprocessors for non-contiguous communication with a more flexible system operation, multidimensional and beyond interpersonal characteristics. This self-learning based mode follows the principles as described by Kirkire and Khichi (1984). The dominating principles are associated with using maximum motivation clarity of presentation, active learning, proper awareness development, positive attitude formation, socialisation, multimedia approach, organisational development with supervisory system, using proper educational technology and special testing services, need based curriculum, team efforts, etc. Being based on these effective and functional principles, it is obvious that the mode is capable to cultivate learning among the peoples in distance forest covered and unapproachabled hilly areas as well as to cover the population attached with their livelihood and unable to attend formal mode, those who have crossed the age-limit, in-service, illiterates and neo-literates, housewives, special and disabled learners, etc.

Teacher Education Through Distance Mode

It is obvious that the distance mode is neither unsuitable for education in general and teacher education in particular, if employed with a professional zeal and non-profit minded attitude. For its application in the field of teacher education in India at various levels, the following measures may be suggested to be undertaken:

(1) Programme expenditure be outlined with all break up and heads to bring faith among the people about its non-profitability.

(2) Objectives specification in clear and behavioural terms to enable them to know about the content and skills they have to acquire.

(3) Flexible programme and curriculum designing, need based, and functional in nature and provide maximum motivation to learn.

(4) Multimedia, special testing services and continuous evaluation technology may be adopted for impartial and diagnostic analysis.

(5) Organisation of the programme with a team spirit including content specialists, experts, guidance personnels, psychologists, technologists, and evaluation experts.

(6) Socilisation of the learners be brought through group activities, in contact programme periods and conferences, presentation and exchange of ideas, social services etc.

(7) Quality control devices and measures to be employed with strict vigilance to serve the purpose of providing better educational facilities in an interesting way.

Conclusion

To meet the aspiration of providing 'education for all' by the year 2000 A.D., the formal mode of education must be supplimented with some other non-formal mode and with whatever control may be felt necessary and compulsory irrespective of the policies concerned with admission, course and programme design, orientation and demonstration including training activities in simulated and real situations, workshop and practical activities, etc. Evaluation must be the direct-integral part of the programme and continuous in nature. For teacher education programmes the system of evaluation may not be the same as that of general education programmes. Lastly, it is also not unsafe to propose a ban over the award of class or division in the field of teacher education to avoid chances of use of unfair means and modes during evaluation. A certificate of active participation and successful completion of the programme and prescribed course may be taken as sufficient. Abolishing non-formal mode may not be the solution of quality and standard deterioration issue and control the commercilisation tendencies. For this purpose, application of systems approach is inevitable (Bhattacharya, 1995) in the field of formal as well as distance modes of education. Since this approach is based on the system analysis strategy (Sharma, 1980) it may help in including any corrective measure and reappropriation of any functional unit with total transparency and objectivity which is not possible to bring through any other device.

Let us hope that the forthcoming century be the century of distance mode in India to cater to the needs of the millions of learners, literates, illiterates and neo-literates as well as of special and disabled learners and to eradicate the problem of illiteracy at any cost. If we are able to control our own 'consumption based attitude' and profit oriented economy' in the field of education in general and teacher education in particular, we may certainly be able to control the quality and standard of all educational endeavours including teacher education.

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- IERSD hosted the massive World Conference on "Education India: The Next Millennium" in November, 1997 in New Delhi in collaboration with several national and international agencies and the NGOs. The conference was addressed by Prime Minister, Minister for Human Resource Development, Finance Minister and several other public men. The conference was regarded as the Education Sector Event celebrating 50 years of Indian Independence. The Conference was covered by all national newspapers, international publications from several countries, government and private channels of television and radio. The massive three volume report and proceedings is the doyen of many major libraries in India and abroad.

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Computer Mediated Communication in Distance Education

Gurudas Nag[1]

Introduction

CMC is one of the newest technologies to be adopted for distance teaching. Using this medium, students and an instructor who might otherwise be separated by time and space use their personal computers, communications software, and modem to connect to a central host computer that runs the CMC software. They have twenty-four hour access to the host computers and can dial in (log on) to receive messages or to leave messages for other people at any time.

Characteristics and Implications of CMC

Unlike a face-to-face class, the CMC classroom is open to you twenty-four hours a day, seven days a week. Although, people sometimes communicated with one another at the same time, using a tool like the "talker" (synchronous interaction), communication is typically asynchronous (people will be logging on at whatever time they choose). Asynchronous (computer conference), computer-mediated communication has several advantages, which are as follows :

1. You have an opportunity to communicate with your peers, without leaving home and without playing telephone tag. With CMC, you also have the opportunity to contact your instructors at any time.
2. Everyone has an equal opportunity to speak up in class, because there is no competition to "get a word in edgewise."
3. Students who are vocal in face-to-face instruction, are also likely to be regular participants in a CMC class, and it is also common that people who seldom speak up in a face-to-face classroom are regular contributors through CMC.
4. Often people find that CMC discussions are better than those in face-to-face classes, because everyone has an opportunity to reflect before writing, and to consult outside reference materials as necessary.

Transmission (time) for CMC messages is virtually instantaneous. However, it is important to remember the fact that though the messages are transmitted, that quickly does not mean that the receiver will answer immediately. Delays of a few hours to a day or more are not uncommon as people will be logging on to check their messages at all hours of the day and night and on different days.

Typically, most, if not all, of the communication in a course enhanced by CMC is in written form (an exception might be occasional telephone contact where necessary). It is unlikely that you will meet the instructor or your classmates, unless a face-to-face training session is required at the start of the class. As a result you won't have any visual cues to guide you as you correspond with others. Visual cues have some important positive implications for normal communication and processes. However, some visual cues, such as gender, age and so on, be distracting. With CMC, people often find it easier to focus on the content of the messages rather than the characteristics of its author.

When we talk with people face-to-face, we rely on cues such as facial expression, gestures and body language to find out what effect our words are having on the other person. Even on the telephone, we still have pauses and tone of voice to help us. With CMC, all these cues are gone, and may occasionally find it difficult to assess the effects of your words, or even to express yourself. There are various techniques you may use with CMC to compensate for lack of the familiar cues (see the following section for more information); however, even with these techniques, you may find it difficult either to express humour and emotions, or to interpret those of others. Precision in expression, compassion, good humour, and patience, all are critical to minimizing misunderstandings.

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Information Management

1. Brevity is a virtue! Wherever possible, try to keep your messages approximately six to eight lines in length. It is rarely necessary for a message to exceed one screen in length If you do need to write a longer message, consider either breaking the message into several parts, titled appropriately, or writing a one or two sentence abstract at the beginning, to help other participants decide if they want to read the entire message.
2. Each message should be organized around one basic point, rather than being a running list of heterogenous observations and questions. A single focus makes it easier for others to respond effectively and efficiently.
3. Questions should never follow each other in a paragraph format. Each question should begin on a separate line. This format makes it easier for people to respond.
4. Message topics should always be described in the subject line. Filling in the subject line makes it easier for other participants to read and respond to your message.
5. Avoid a complex writing style with excessive use of clauses.
6. Avoid a rambling writing style; get to the point quickly if you want people to read your message.
7. Avoid solid screenfuls of text; long paragraphs of text are quite imposing. Break-up the screen by using tab indents, a line or two between paragraphs, and asterisks (*), letters, or numbers to set off items in a list.

Emotional Expression

The lack of contextual cues, such as eye contact, tone of voice and body language, often makes it difficult for participants to interpret the emotional "colouring" of electronic text. Various conventions for emotional expression have been established through trial and error. Some of them involve symbols; for example

:-(expresses sadness or mild displeasure.
:-) expresses sarcasm (use this one sparingly !).
:-O expresses surprise or shock.
:-) expresses pleasure, happiness, or laughter.
Other conventions use words; for example, *HUGS*, *smile*, *grin*.

Note : CAPITAL LETTERS may be used for EMPHASIS, but avoid typing in only capitals as it may "sound" AS THOUGH YOU ARE SHOUTING

Humour is often a valuable component of the emotional "colouring" of a conference, AS long as it is not at anyone's expense.

NETiquette

Feel free to use first names in your conference and e-mail messages; they make the message seem more personal. Pat each other on the back; thank others for their acknowledgements and suggestions. Sometimes, consider personalizing your message by alluding briefly to where you are writing from, or what is going on around you (the rumble of the vacuum cleaner, the sound of the late show on TV, etc.). In general, do not worry about perfect grammer and typing when you use conferencing and e-mail. What is important is that you can relax and enjoy commuicating with CMC, and the readers can understand what you are saying with little effort. However, it is important to remember that all formal assignments and papers should meet the same impeccable standards you are already accustomed to. Always respond promptly to any messages you receive. Not only is prompt response courteous, it is also the only way for the sender to know you received the message. If you do not have time to write a full reply, consider sending a brief note, such as "Thanks for your message; I'll get to it as soon as I can.". Notify others if you will be away from the computer for more than a few days because of work, travel, vacation, etc. This courtesy is particularly important if you are working on a group assignment.

Be gentle with criticism. Courtesy and forebearance are even more important in on-line communication than in face-to-face discussion, because your audience cannot see your face. Do not criticize your classmates; if you must make a criticism, focus on the logic, rationale, data, etc. of the

message you are commenting on. If you are responding to a controversial or sensitive topic, consider sending your message only after you have some time to read, rewrite and reconsider it. Thank people for their reflections upon your comments-- either publicly, in the conference, or privately through e-mail.

Conclusion

Computer mediated communication is one of the media used in distance education. Only version of answer-question is not enough to supplement the text. Visual cues are necessary specially in science subjects. Emotional feelings another handicapped things to think with. But it is worthwhile for remote learners where they are not getting anything to interact with teacher, peer group, etc. Computer mediated communication enables the remote learner to interact with teacher and other to enhance learning a subject.

Role of Assignments in Distance Education
A Case Study

R.R. Mishra and Nasim Ahmad[1]

Distance education is characterised by the absence of direct contact between the distant learner and the distant teacher and the use of multi-media in teaching learning process. Out of the various media that are used for this purpose, assignment plays a pivotal role. In the process of distance teaching, printed study material along with a set of questions called assignments is sent to the learners. The learner is expected to study the text, work on the assignment and send his/her response to the concerned study centre/institution within the stipulated time.

The assignment sent by the learner is then sent to course counsellor for the evaluation. The evaluated assignment is sent back to the learner so that he/sher is in a position to know how far he/she has been able to grasp the subject-matter. The marks/grade awarded in the assignment in counted towards the final certification of the learner.

The function of a distance teacher is not only to evaluate the assignment response of the learner. As a matter of fact, the most important function of a distance teacher is to help the learners learn from the course units. He/she has to find ways to communicate with the learners to help them in their effort to study. In order to inform, guide, inspire, help, encourage and motivative the learner, the distance teacher writes comments on learner's response sheet. Most of the academic support to the learner from the institutions is in the form of tutor's comments on their assignment response. But this is not an easy task as written comments may easily be misinterpreted. To avoid this situation, the teacher has to be cautious while writing the comments.

To teach effectively from distance, the tutor comments should be of teaching type, appropriately worded and properly placed They should be encouraging, accepting the strong points of the response, indicating where and how the response has gone off the point and suggestions to how that could be improved. They have to be well thought-out, deliberate, palatable, precise and pedagogically purposeful. The assignment should be useful to the learners in their study and the number of assignment per paper should be appropriate. The despatch of assignments and evaluated assignments has to be made on time and the assignment should be so worded as to be comprehended by the learner without much difficulty.

The Indira Gandhi National Open University (IGNOU), New Delhi offers various courses to the learners spread throughout the country. According to the provisions of the University, learners are given three assignments in each paper to work on. Submission of two assignment responses is compulsory while one may work on all the three with a view to better one's grade if one desires so.

The present study has designed to assess the usefulness of the assignments in terms of their delivery, evaluation, number, language, tutor comments and scope for improvement. The interview for this purpose was conducted with 22 randomly selected learners of Bachelors' Degree Programme (BDP) of IGNOU out of 173 learners admitted in 1989 and associated with its Ranchi Study Centre. The data thus collected were analysed, interpreted and the findings have been presented in this paper.

Basis of the Assignment

The assignment has to be based on the study units sent to the learners.

18 out of the 22 selected learners (81.82 per cent) reported that it was based on the print materials sent to them while 4 (18.18 per cent) held the opposite view. It can be said that in general the assignment was based on the study-units.

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Language of the Assignment

Table 1 Language of the Assignment

Language Stream	Easy		Semi Hard		Hard		Total	
	No. of Learners	Percen-tage	No. of Learners	Percen-tage	No. of Learners	Percen-tage	No. of Learners	Percen-tage
10+2	7	58.34	5	41 66	0	00.00	12	100.00
Non-10+2	1	10.00	9	90.00	0	00.00	10	100.00
Total	8	36.36	14	63.64	0	00 00	22	100.00

The language of the assignment should be simple to the extent possible so that the question is understood by the learners easily and without much difficulty.

As evident from table-1, eight out of 22 (36.36 per cent) learners found the language easy while as many as 14 (63.64 per cent) felt otherwise. To them, the language of the question was somewhat difficult. Stream-wise 90.00 per cent (9 out of 10) learners in non 10+2 streams accepted that the language of the assignments was somewhat hard. The situation was not much different with the learners of 10+2 background. Amongst them too, 5 out of 12 (41.66 per cent) felt that the language was hard. On the basis of this investigation, it can be said that most of the learners found the language of the assignment somewhat hard

Receipt of Assignments and Evaluated Assignment - Responses on Time

The assignment and evaluated assignment responses have to be despatched to the learner on time. This is necessary as the learner has to work on the course units and send the assignment response on or before a stipulated date. Timely despatch of evaluated assignment enable the learner to improve the level of performance in the future assignments

Table 2 Receipt of Assignments and Evaluated Assignment - Responses on Time

Receipt of time	No. of learners	Percentage
Always	4	18.18
Sometimes	11	50.00
Never	7	31.82
Total	22	100.00

Table-2 deals with the receipt of assignment and evaluated assignment-responses by the learners. As shown in the table, as many as 7 of the 22 selected learners replied that they never received the assignment - and evaluated assignment-responses on time. 11 of them (50.00 per cent) received them only sometimes. This observation indicates that generally the assignment and evaluated assignment-responses are not sent back to most of the learners on time and consequently, they had to suffer on this account.

Assignment as a Part of the Curriculum

Assignment is one of the important tools of teaching the learners at a distance. Assignments form an integral part of the curriculum in distance education system and carry 25 to 30 per cent weightage towards the final certification of a diploma or degree.

With a view to extract the opinion of the learners about assignment forming a part of the curriculum, questions relating to this aspect were put to the learners and their responses have been presented in table-3. A large percentage (71.43) of the learners opined that assignments should always

be a part of the curriculum. Five out of 21 (23.81 per cent) learners wanted that they (assignments) should form a part of the evaluation system only sometimes.

Table 3

Assignment as a Part of the Curriculm

Assignment as a part stream	Always		Sometimes		Never		Total	
	No. of Learners	Percen-tage	No. of Learners	Percen-tage	No. of Learners	Percen-tage	No. of Learners	Percen-tage
10+2	11	91.67	0	00.00	1	8.33	12	100.00
Non- 10+2	4	44.44	5	55.56	0	0.00	9	100.00
Total	15	71.43	5	23.81	1	4.76	21	100.00

A noteworthy feature of the observation was that in 10+2 stream of learners, all but one (11 out of 12 i.e. 91.67 per cent) of them wanted that assignments should always be a part of the curriculum while in non 10+2 stream, the percentage of such learners was comparatively low (44.44 per cent). This is perhaps because of the fact that by virtue of their higher basic qualification (10+2), they found it easier to grasp the matter in the print and answer the questions in the assignments. The above discussion indicates that most of the learners were of the view that assignments should form a part of the curriculum.

Number of Assignments

There should be an appropriate number of assignments. It should neither be to much nor too less.

Table 4

Number of Assignments

No. of Assignments	No. of Learners	Percentage	No. of Assignments should be	No. of learners	Percentage
More	6	27.27	Increased	0	00.00
Less	0	00.00	Decreased	6	27.27
Neither	16	72.23	Neither increased nor decreased	16	72.23
Total	22	100.00	Total	22	100.00

Table-4 shows that 16 out of 22 learners (72.23 per cent) were of the view that the number of assignments per paper was appropriate. They expressed the opinion that it should be neither increased nor decreased. This indicates that most of the learners found the number of assignments appropriate.

Description of tutor-comments

In distance education system, most of the communication in terms of academic support between the distance teacher and the learner takes place in form of tutor-comments. This underlines the importance of comments in this system. Obviously, comments have to be written in the margin of the assignment-sheet of the learners to enable the learners to know where and how he/she had gone wrong and how he/she could be corrected. The comments should open heartedly accept the strong points of the response and encourage the learners to do better in future. If the performance is of a higher level, the

learner needs to be encouraged to keep up the tempo. In distance education system, all these could be achieved through the comments on the response-sheet.

Table 5 Description of Tutor-comments

Total number of respondents - 21 (100.00 per cent)

Description	No. of learners	Percentage
Encouraging	9	42.85
Discouraging	0	00.00
Motivating	4	19.04
Demotivating	2	9.52
Correcting the mistakes	4	19.04
Describing how and where the answer was wrong	9	42.85
Describing how it could be corrected	9	42.85
Accepting the right portion/answer	1	4.76
Any other	0	00.00

As shown in table-5, nine out of 21 (42.85 per cent) learners described the comments as encouraging. Four (19 04 per cent) found the comments motivating and the same was the number of learners reporting the comments as correcting the mistakes. Two (9.52 per cent) termed the comments as demotivating, 9 (42.85 per cent) learners found the comments as describing how and where the answer was wrong and the same number reported them as describing as to how it could be corrected. A very low per cent (4.76 per cent) of learners found them as accepting the right portion/answer.

The picture that emerges from the table indicates that though commenting is more or less satisfactory, there is room for further improvement. The evaluators need to be fully oriented towards this comparatively newer system of education and encourage to take pains to write teaching-type comments.

Reflection of Grades/marks by Global Comments

Global comments have to be written by the tutor in such a way as to reflect the grade/mark awarded. The learners' opinions on this aspect have been presented in table-6.

Table 6

Reflection of Grades/marks by Global Comments

Reflection	No. of learners	Percentage
Always	6	31.58
Sometimes	12	63.16
Never	1	5.26
Total	19	100.00

Out of the 19 respondents, 12 (63.16 per cent) expressed the view that it was only sometimes that the global comments reflected the grades/marks awarded. However, 6 of them (31.58 per cent) reported that the comments always reflected the grades/marks. What this investigation reveals is that the level of global comments is not very satisfactory and there is ample room for improvement.

Satisfaction of the Learners with the Grades/Marks Awarded

Evaluation has to be done in a way as to enable the learner to think that he/she has been evaluated and graded correctly.

Table-7 deals with the learners' satisfaction with their grades/marks. As evident from the table, 13 out of 20 (65.00 per cent) learners reported that they felt satisfaction with their grades/marks only sometimes. There were 7 (35.00 per cent) learners who were always satisfied with the grades/marks awarded to them.

Table 7

Satisfaction of the Learners with the Grades/Marks Awarded

Assignment as a part stream	Always		Sometimes		Never		Total	
	No. of Learners	Percen-tage	No. of Learners	Percen-tage	No. of Learners	Percen-tage	No. of Learners	Percen-tage
10+2	1	10 00	9	90 00	0	00 00	10	100 00
Non- 10+2	6	60.00	4	40.00	0	00.00	10	100.00
Total	7	35 00	13	65 00	0	00.00	20	100.00

Table 7

Satisfaction of the Learners with the Grades/marks Awarded

Satisfaction of with the grades/ marks Stream	Always		Sometimes		Never		Total	
	No. of Learners	Percen-tage	No. of Learners	Percen-tage	No. of Learners	Percen-tage	No. of Learners	Percen-tage
10+2	1	10.00	9	90.00	0	00.00	10	100.00
Non- 10+2	6	60.00	4	40.00	0	00.00	10	100.00

An interesting observation was that the number of learners satisfied with their grades/marks only sometimes was very high i.e. 90.00 per cent (9 out of 10) in 10+2 group of learners as compared with their counterparts in non 10+2 group i.e. 40.00 per cent (4 out of 10). Again the percentage of learners always satisfied with their grades/marks was considerably higher (60.00) in non 10+2 category of learners as compared with their percentage in 10+2 category (10.00). This is perhaps due to the fact that the 10+2 people had greater confidence in themselves and as a result their aspirations were higher.

The picture that emerges out of the discussions is that a higher percentage of the learners were not satisfied with the grades/marks awarded to them. However, the streamwise analysis showed that the level of satisfaction was higher among non -10+2 stream of learners.

Usefulness of the Assignments

The assignments should prove useful to the learners in their endeavour to study.

Table 8

Usefulness of the Assignments

Usefulness	No. of learners	Percentage
Very useful	11	50.00
Useful	10	45.45
Not useful	1	4.55
Total	22	100.00

Eleven out of 22 (50.00 per cent) learners found the assignments very useful to their study and 10 others (45.45 per cent) found them useful (Table 8). This observation amply proves that the assigments were quite helpful to the learners in their study.

Suggestions for improvements

Inspite of the best care taken while preparing the assignments, some limitations may remain there in it which have to be taken note of afterwards.

It was in this background that the learners were asked to their suggestions on the basis of the defects they found in the assignment. Fourteen out of the 22 learners (63.64 per cent) offered one or more suggestions. The suggestions have been presented in Table-9.

Out of the 14 learners offering suggestions for improvement of the assignments, 4(28.56 per cent) held the view that more objective type questions should be introduced. Two of them (14.28 per cent) opined that the number of short-answer questions should be increased. Again 2(14.28 per cent) felt the need for the simplification of the language. One important suggestion offered by 4 (28.56 per cent) of these 14 learners was that the assignments should be despatched to the distance learners at regular intervals and in a sequence. There were some other suggestions also (Table-9).

Table 9 Suggestions for improvement of assignments

Suggestions	No. of learners	Percentage
Provision of more objective types questions	4	28.56
Provision of more short answer	2	14.28
Use of simpler language	2	14.28
Despatch at regular intervals	4	28.56
No word-limits	1	7.14
Evaluation by 2 examiners	1	7.14
Provision of answer	1	7.14

The investigation revealed that the above mentioned four suggestions offered by the learners may prove somewhat helpful in improving the assignments.

The learners found the assignments based on the print materials and quite useful in study. Majority of them was of the view that assignment should form a part of the curriculum.

However, most of the learners of non - 10+2 stream found the language of the assignment somewhat difficult. Neither the assignments nor the evaluated assignment-responses were always sent to them on time. So far the tutor comments are concerned, they were more or less satisfactory but there was room for improvement. Most of the learners were satisfied with their grades/marks only sometimes.

The study leads to the conclusion that probably simplification of the language used in the assignment to an acceptable extent may help the learners. Regular despatch of assignment and the

evaluated assignment-responses, should be ensured. For this purpose, perhaps a short training may be given to the official staff engaged in this job. The problems associated with the tutor comments and grading may be solved to a great extent if the evaluators are adequately and properly oriented towards the distance education system and are encouraged to take pains to write teaching-type comments. Increasing the number of short answer-questions and objectives type questions may also be helpful in improving the assignments.

Management Challenges of Distance Education in India

P.N. Singh[1]

The primary purpose of the distance mode of education is to take the facilities of education at the doorstep of the learner who is not supposed to move to big cities where conventional educational institutions are located. It has gained wide acceptability in recent years. In spite of tremendous growth in the number of universities and colleges in India hardly 5 per cent of the youth in the relevant age group have an access to the facilities of higher education as compared to 30 to 40 per cent in other advanced countries. The existing institutions of higher learning are over-crowded. In view of the growing pressure from student population, the State Governments are forced to grant permission for opening new colleges without insisting on better infrastructural facilities and properly qualified staff. There has also been phenomenal growth in the number of unaided substandard institutions where both the students and the teachers are exploited. Over and above, in a developing country like India, people who like to get themselves enrolled for higher education, find it difficult to afford the high cost of conventional education. It has been established through a number of studies that distance education is 14 to 40 per cent cheaper as compared to conventional mode of education.

There are over 200 universities through which conventional higher education system is identified. Over 7500 colleges with about 42 lakh student and 2.7 lakh teachers are affiliated to these universities. Higher education facilities are not only inadequate but the system is also highly subsidised. The formal system of education has not been an effective means to equalise educational opportunities, since it is rigid, inflexible and irrelevant to the needs of the learner.

Thus, the change from a closed to an open system of education is the need of the hour. The solution of the problems of the existing conventional mode of education lies in distance education. It implies education being imparted to a student by the teacher despite physical distance. The concept of distance education came into being in sixties when correspondence course were introduced in some selected universities. These opened the facilities of higher education to those who are at home, in service and to those who wanted to pursue higher education at their own place. The University of Delhi was first to introduce the correspondence course in the year 1962. The concept of Open University came to India with the establishment of the Andhra Pradesh Open University in 1982. The Open University is open in the sense that it relaxes student entry in terms of age, educational background, etc. adopts the structure of the curriculum to the needs of adult learners, adds to their degrees and diplomas and other non-formal programmes. It intends to offer quality education through correspondence to the students who remain outside the conventional system. On the one hand, distance education functions inside the framework of the universities in the form of correspondence courses and on the other it gets autonomous treatment in the framework of open universities. Now, the distance education is related as a stable component of higher education system in India.

At present, there are seven open universities in the country. Indira Gandhi National Open University, New Delhi was established in 1985 by the Government of India to serve as an apex body. It has been stated

"the object of the University shall be to advance and disseminate learning and knowledge by a diversity of means including use of communication for higher education to a large segment of population and to promote the education well- being of community generally to encourage the Open University and distance education system in the educational pattern of the country and to co-ordinate and determine standards in such system". (Indira Gandhi Open University Act 1985)

As of today, nearly forty universities are offering courses through correspondence. In India, distance education has emerged as an alternative model to conventional mode of education. During the last three decades, advancement of communication technology has contributed towards qualitative improvement and quantitative expansion of distance education in India. Its base has been strengthened. Steps have been taken to network the system so that effective interaction of the existing centres of distance

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education can be ensured effectively. Besides, continuous research efforts are to be made to facilitate policy decisions and improvement of programmes of distance education.

Since the sixties, Distance Education has been gaining ground throughout the world in the form of correspondence courses. Correspondence studies were first started in the year 1840 by Issac Pitman who conducted his course in short hand via the new Penny Post. However, some researchers have traced the fore runners of Distance Education to 1883 when a private teacher of English taught composition by post. Distance Education is the child of twentieth century. Europe has made rapid strides in the development of Distance Education during the last few years particularly in England, Sweden, Norway, Netherland and Spain.

In Indian context, the emergence of Distance Education can be traced back to over decades. Correspondence education in India was first started in 1962 by the University of Delhi, as a pilot project. Today we have 7 (seven) fully committed open universities and about 43 conventional universities (as dual mode institutions) providing education through the distance mode to about 12% or nearly 8.22 lakhs students engaged in higher education from a mere 0.15% i.e. 1,112 students in 1962-63. The Indira Gandhi National Open University (IGNOU) is coordinating the distance learning system in the country. Keeping in view the diverse needs of the society, IGNOU is offering various programmes starting from conventional Bachelor's Degree to the advanced computer and engineering courses. The development of distance education is obviously a story of an on-going process of innovations leading to a non-formal, democratic, flexible, academically viable, economical and forward looking teaching-learning system which has established its credentials beyond doubt and has a vital role to play in meeting the challenges of the future.

Objectives and Relevance of Distance Education

The main objectives of distance education are :

(i) to provide a system of student centred self paced learning;
(ii) to provide a flexible, diversified and open system of education;
(iii) to develop by providing wider access to higher education to persons of all ages and sex; particularly to working persons and to economically or otherwise handicapped; and person residing in remote areas.
(iv) to provide means of upgradation of skills and qualifications; and
(v) to develop education as a life long activity so that the individual can refresh his knowledge in an existing discipline or to acquire knowledge in new areas.

Distance Education is essentially based on the supply of reading material for home study by the learner, supported and supplemented by personal contact programmes, student assignments/response sheets, library facilities, study centres, radio/TV programmes and audio visua aids, etc. A well conceived programme of distance education can be almost as effective and meaningful as any regular day-time instruction in a college or a university department.

Distance Teaching institutes of developed countries use highly sophisticated equipment to supplement their efforts to teach at a distance besides using printed material and audio-video channels. With the emergence of satellite technology, the world has become like a big classroom. The developing countries can also use these advanced techniques to upgrade the knowledge of distant learners as the prices of new electronic equipments are sharply declining.

Like developed countries, people in developing countries have also accepted the utility of distance education because of the need for life long learning and continuing education. The developing countries are becoming increasingly conscious of the need for developing human resources through education and training. Radio, T.V., Computer and other relevant audio-visual technologies are useful and helpful in this direction. Distance education is now becoming popular in our country. It is playing a very useful rôle in the areas of continuing General/Technical Education. It relies on the effective use of mass communication to disseminate information to large audience of distance learners. It is now widely accepted that without taking the help of distance education, it would be virtually impossible to cater to the increasing educational needs of the country.

Management Problems

We have an experience of about 30 year of running and managing the distance education in India. It has been found that the centres of distance education are treated as subordinate to conventional universities. They do not have financial autonomy and decision making lies with the university authorities. The position of correspondence institutions in the University structure needs to be clarified. Very rarely correspondence institutions are represented in the decision making bodies of the parent universities. The directorates do not have any say in formulation of syllabi, examination pattern, etc. The course contents and evaluation systems are same as those of conventional universities. There is no flexibility in approach. The correspondence institutions must be free from such positions. They should be given autonomy for framing their own course structures, appointing their own teaching and non-teaching staff and manage their own ways. They should not be treated as appendages to the conventional universities.

Over the period of almost three decades, there has been quantitative expansion in distance education centres. The movement has also brought improvement in introducing new courses and enrolling more students in these courses. Distance education is a learner oriented education system. It is supposed to cater to the educational needs of specific group of learners who are capable of pursuing higher education but could not do so because of certain factors. There is now need to focus more attention on the quality. The main aim of distance education is less technology and more learning. A need for an integrated theory of teaching based on both hardware and software dimensions of education technology is inevitable. Higher productivity and greater flexibility are the virtues found in distance education system. It also represents the transformation of education from the craft to the technology. Learning is acquisition of knowledge with experience. Acquisition of knowledge refers to a change in possession. Each teaching device and innovative instrumental method require research to develop it, test its effectiveness, vary it, sharpen it and delimit its usefulness. The best of equipment may be idle, the best of resources remain unused, the best of technique sabotaged, unless there is care in introducing the new methods and new materials. The technology of distance education is changing so fast that it needs enormous capital investments in the purchase of hardware, software etc. The technology has to determine the cost and scope of the distance education's delivery network. There is need to centrally monitor and update the courses. A good professional planning is essential. Innovations should be directed towards sound research-based programme. Programme packages should be such that it is available in good textbooks, films, etc. There is also need for providing training to the teachers to overcome the teacher's resistance to new methods and materials. Commercialism and vested interests should not be allowed to enter in the system. It should be kept in mind that the distance education system may also prove disastrous unless effective steps are taken to keep it updated.

The distance education courses and formal full-time courses should not be treated as two separate and mutually independent approaches. In fact, the universities should permit the student to do part of degree course of same subjects through formal full- time course and some subjects through the distance system. The distance education system especially is the matter of state support. The barrier between these two systems must be removed.

An effective co-ordination is essential in preparation of quality course materials and their timely despatches to the enrolled students. The lessons should be clear and systematic suiting to the needs of the students. Substantial expenditure needs to be made initially in the production of learning materials. There is ample scope for diversification in the courses making them job oriented and more purposeful. It has been found that a business type attitude exists. Stereotypes lessons without revising and updating them are circulated. Teachers are not properly qualified. Teachers engaged in distance education need specialised training.

One of the most important requirements of any successful distance education programme is the availability of good student support services. The student support services comprise of the academic facilities which are provided to students. To enumerate some of the important ones we may mention the following :

(a) Study Centre;

(b) Study material in the form of print, audio, video material which is usually sent by post;

(c) Periodic written assignments,
(d) Personal Contact Programmes; and
(e) Audio/Video Conferences
(f) Lectures/discussions by expert through satellite mode.

The main purpose of each student support service is to mitigate the feeling of isolation and make him aware that there are experts available to him in an hour of need. In fact the entire system of distance education envisages active two-way interaction between the learner and the Directorate of Distance Education. It may, however, be clarified that the academic facilities under (e) and (f) namely audio/video conferences and satellite - beamed programmes are being used in our country on a very small scale due to their heavy initial cost.

The objectives of these student support servies are to provide the learner with best possible learning material based on programmed learning in self-instructuctional format. Utmost care be taken in preparing these lessons so that the students do not experience difficulty in understanding these materials which are usually sent by post at learner's place of residance.

It is usually difficult for a student in a remote area to have access to the recommended books for extensive study. Sometimes he has certain doubts which he wants to get removed. At other times he may need certain information with respect to the rules governing the programme. In order to attend to such needs, study centres are established in areas of high concentration of students which are manned by technically competent people. The study centres invariably have good library facilities, apart from audio and video cassettes relating to the topic which could be played there for the benefit of the visiting students. Counselling services are also provided at such study centres. Since the basic philosophy of distance education advocates no geographic boundaries, the large distance between the distance education student and the Directorate could be drastically cut by such study centres.

A special mention may be made of the carefully designed personal contact programmes which are compulsory for each student. It is one of the most important student support services. Every distance education programme has its own independent PCP usually of twenty one day's duration. These PCP Centres are entrusted to local coordinators who are invariably senior faculty members belonging to the discipline in question. A simulated classroom teaching skill practice is also an art of these PCPs. Written assignments are checked by the teachers and necessary feedback is given to the students.

Future Role

In the present situation of limited resources, consolidation of distance educatibn mode is a social and academic necessity, to relieve the overcrowded universities and colleges and to enable them to concentrate only on enrichment of mind for national development and global competition. Distance mode should concentrate on effectiveness of its system of delivery with improved inputs and comparative cost effectiveness through evaluation of cost of course materials, production costs, student support services and multi-media packages. The system has to live upto their aspiration and needs a constant update and thereby providing itself to be a substantial complement to the formal system to augment opportunities for higher education. It is the only hope to democratise education and change the institutionally close and ivory tower culture of higher education. It has to go with its flexibility, academic transparency, cost effectiveness, availablity at doorsteps and above all accessibility to all irrespective of individual's time, place and pace of learning.

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Learners Perspective of Distance Education

Harichandran[1]

Distance Education : The Concept

Education is not only a social and moral imperative, it is also an economic necessity. Development holistically conceived in terms of cultural, social, political and economic domains calls for massive, need-oriented education. In turn, it is the need-based nature of education and mass appeal which brings distance education into play. In distance education, the focus is on the needs of the people whom the education message is addressed to. The determinations of the educational needs of the various groups such as dropouts, out of school youth, on-the-job people, farmers, teachers, women, school and university students and illiterate adults is the starting point of distance education.

Distance education systems are well known for their innovations, flexibility, individualisation, adoption of new information technology and student support system as per their individual needs. Distance education refers to the teaching and learning process in which a significant proportion of the teaching is conducted by someone away in space and/or time from the learner. Distance education in terms of media usually involves a combination of micro processors so as to not only compensate for the limitations of an individual medium but also to drive the maximum advantage from all the media used. The media used in distance education are generally reinforced through correspondence studies and tutorial sessions. The advent of modern communication media has shown that education need no longer be limited to face-to-face learning situation. Learning can be uncoupled from schooling

Distance education methods could be characterised by the separation of teacher and learner, the use of technical media. including print, to facilitate communication between the teacher and learner, two way communication (with emphasis on feedback) and the teaching of people as individuals and not in groups with provisions of occasional meetings through Seminars. Contact Programmes, Counselling, Guidance and Study Centres. Learning in the distance education mode overcomes the constraints of (i) specified locations, and (ii) timings of study which characterise face-to-face teaching. The participants can choose their place, time and mode of study. It makes available to adults and out-of-school youth as well as educationally disadvantaged groups general, vocational and professionally oriented courses without affecting their capacity to earn their livelihood

Distance education has a great sociological identification as it can help not only in extending education but also in equalising educational opportunities and thereby help varied and dispersed student populations, even in rural areas. The basic tenet of distance education is that education should be taken to where people are rather than the other way.

Distance education has gained momentum all over the world during the later half of 20th century. Those who are involved in educational development found an innovative method in distance education system to cater to diverse clientele groups with varied characteristics environmental conditions. When compared with the conventional system, the distance education system has enough flexibility and potential to provide education to the students who are living in remote areas with diverse geographical and environmental conditions. With the help of latest information and communication technology, distance education is increasingly becoming an effective method to provide education to various clientele groups.

One must, however, keep in mind that it is the students and the students alone, who are the "adharshila" (foundation stone) of the system and everyone concerned need to keep this in mind that the aspirations of the students cannot be neglected. Their enthusiasm cannot be ignored, their expectations cannot be overruled. Hence it is necessary to assist them, guide them and counsel them in every objective and reciprocal manner whereby their interest is sustained and their education becomes total within the framework of the distance education systems.

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Objectives

Keeping the student's perspective in view the present study was conducted to provide additional information regarding the functional aspect of study centres which have been regarded as a sub-system in distance education for student support services. In this study, specifically we hoped to :

(i) Study the different background characteristics of distance learners who are making use of it.

(ii) Find out programmes/courses available for study.

(iii) Analyse the available facilities in the study centre and the extent of their utilisation.

Methodology

A total of 103 distance learners were contacted from two study centres located in Bombay. Questionnaire was personally administered to the learners which was content validated by the experts and pilot tested. Simple statistical techniques such as Mean and Percentage were used. Mostly qualitative descriptive analysis was made. The scope of the study was limited to the two study centres of Bombay city only.

Findings of the Study

The profile of distance learners, based on the data collected, shows that a high proportion of learners were males (72 percent) where as females accounted for only 28 percent (Table 1). As far as maritial status is concerned 39 percent of the learners were married and 61 percent unmarried. Thus, it was found that a large number of respondents were unmarried. The age distribution of the learners also shows that majority of them were between 20 to 24 years which accounted for more than 50 percent of the whole population. The mean age of the population was 28 years. The youngest student from these study centres was 20 years old; the oldest was 83. A large number of students are employed (60 percent).

Table - 1

Profile of Distance Learner

Characteristics	Categories	% of respondents
Sex	Male	72
	Female	28
Marital Status	Unmarried	61
	Married	39
Age	Upto 24	53
	25 to 34	28
	35 & above	19
Occupation	Employed	60
	Unemployed	40
Income	Low Income	41
	Middle Income	35
	High Income	24

The above findings are in conformity with various other research studies, especially the IGNOU Research Project (1993) which states the female enrolment has decreased to 21 percent. 56 percent of the learners are employed and ruralites are only 4 percent in Open Universities.

Implication

Given the goals of distance education in our country do the finding suggest any happy trend towards fulfilling those objectives of reaching to the socially disadvantaged rural people (especially children and women) cutting across geographical boundries ? What about equalisation of educational opportunity especially when we have 4 percent of the rural people and 21 percent female ?

Distribution of respondents by Faculty

The data show that nearly 80 percent of the learners have offered programmes which are available in conventional Universities too. i.e. almost 40 percent each of the respondents have opted for B.A. and B.Com. programmes (Table - 2) It is good indicator that Certificate Programme in Food and Nutrition (CFN) has at least drawn the attention of nearly 11 percent of the respondents. Diploma in Management and Distance Education almost share 5 percent of the respondents each. It seems traditional conventional degree like B.A. and B.Com. are still popular among the respondents.

Table - 2
Faculty wise Programmes availed

Faculty	% of respondents
B.A.	38
B.COM	41
CFN	11
DIM	5
DDE	5

Implications

If this is the trend of distance education how can the over-production of graduates be avoided ? Can distance education be utilised in such a manner that its beneficiaries don't add to the problem of educated unemployment ? Will employers accept the qualifications conferred through distance education mostly in Open University System unreservedly ? Will distance education be given due recognition by the academic community ? These are certain issues which needs careful consideration.

Utilisation of Facilities

It can be seen from Table - 3 that the facilities available at the study centre were grossly underutilised. Thirty five percent of the students had not utilised the facilities of any kind available at the study centres. Of the remaining 65 percent who had utilised the available facilities, majority (25 percent) had sought the advice of the Co-ordinator in matter relating to administrative affair and counsellors in matter pertaining to the study materials and preparation for study. This was followed by almost equal number of those who had either utilised only audio-visual aids or sought only the advice (both about 18 percent). However, it was found that the students utilised the available facilities not in any particular programme but in combination with other facilities also. The proportion of students utilising all facilities was found to be only about 40 percent.

Table - 3

Facilities Utilised by Respondents

Sl.No.	Facilities Utilised	% of respondents
(i)	Only Audio-Visual & technical	17
(ii)	Only advice from Co-ordinator or Counsellor sought	25
(iii)	Any one of the Audio-Visual aids in combination with advice from Counsellor/Co-ordinator utilised	19
(iv)	All services utilised	4
(v)	No services utilised	35

Implications

Though adequacy of facilities is ensured in study centres, it has not been properly utilised. Now the question arises as to how the learners be motivated to utilise those services ? Are the learners aware of the facilities available ? What are the reasons of non-utilisation of these facilities ? Are the students informed about the programme televised by IGNOU for its proper utilisation ? These and many other issues need to be considered seriously, as problems encountered by the learners.

It was observed that 66 percent of the students had no problems with the instructional material. Only 22 percent had language difficulty, while 12 percent had content diffifulty. Some other difficulties are related to course material which is provided in large volumes, so it becomes difficult to go through them as most of them are working class people. However, majority of them hail the instructional materials to be nicely prepared (Harichandan, 1990). It was found that about 43 percent come from a distance ranging 10 to 19 kilometres and about 33 percent from a distance of 20 kilometers and above to attend to study centres.

Implications

There is need to open up more number of study centres so that students can utilise it conveniently. Course preparation, especially its volumes of coverage etc. are to be taken care. The distinguishing gathering, I hope will give their considered views on these and other related issues so that some discussion could take place leading to a stage where we can set distance education in its right perspective and a sustainable strategies be devised. In addition, the general issues which may be of interest to you outlining the future role of distance education in institution building, human resource development, environment protection, population education, poverty alleviation, etc. could also be discussed.

Without pretending to suggest any answer myself to these complex issues, may I submit for your consideration that sucess in this field depends on two conditions :

(1) An open mind so that we, the products of conventional educational systems, do not look down upon any innovation, and

(2) A systems approach which would ensure a fair chance for the implementation of any idea.

Development of Gender-Sensitive Open Learning Systems : A Social Audit Model

Annu Jacob Thomas[1]

Introduction

Social audit of educational and training programme leads to an examination of specific gender-sensitive interventions that could shape the process of curriculum design, course development and delivery in open learning systems (Thomas, 1996). The major interventions needing careful consideration include gender needs assessment, identification of gender assumptions in policy and planning, development testing, information dissemination, generation of skill development and conscientization inputs and creation of appropriate support systems for women learners (Thomas, 1995).

Some of the key issues for social audit of all interventions with human resource, and therefore, gender implications identified by Kabeer (1992 :36) are :

1. Who is being targeted by the proposed policy/programme and what assumptions are being made about them? What evidence is there that these assumptions are well informed?
2. Who devised the goals of the intervention? Are these goals shared equally by women and men? If not, are there reasons for supporting the intervention on the ground that it would enhance gender equity?
3. Whose interests are being promoted through the intervention?

This paper seeks to explore various facets of social audit in the context of development of gender-sensitive open learning systems.

Social Audit of Gender Sensitivity in Open Learning Systems : Design and Development of Courses

Open learning systems offer some inherent advantages for women learners. They provide a viable alternative for women by reducing the social opportunity cost of female education. No time and energy costs are incurred in reaching the educational institution on a daily basis. There is also more time available for completing courses in addition to attending to the household needs for women already in the "economic" workforce. It affords the opportunity to upgrade qualifications and skills at a reasonable pace. Cultural constraints tend to weaken because factors such as the need for segregation of women and men learners lose their relevance.

Courses and programme are devised in open learning systems based on knowledge, practice and utility frameworks of client groups. In a gender sensitive social audit model we need to ask : *who is being targeted?* Are the learners likely to be both men and women? In an open learning setting restricting entry by designing "women only" courses would cut at the roots of the philosophy of openness. It seems a better alternative to let both women and men participate in the learning process.

Both women and men could be encouraged to critically reflect on unequal domains of knowledge acquisition as well as the reinforcement of traditionally given gender distinctions. In the process of training men, for example, to become gender trainers, their own deeply embedded beliefs and attitudes could undergo change.

An educational system is a repository of beliefs and attitudes. In the case of the open learning system these beliefs and attitudes are encapsulated in the self instructional materials and are clearly open to scrutiny, reflection and introspection. This implies that materials need to combat gender relativism (Khullar, 1991) through broader strategies across different courses.

This has obvious implications for relevance and adequacy of curricula. Learning in open learning systems is achieved through identical multimedia inputs to each learner in the form of the course package. Hence gender in the content and context of learning can be avoided through careful planning, design and development of courses and programmes. In order to design relevant and adequate courses and

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programmes, learning systems often make key assumptions about their target group - the learners. Are these assumptions well informed? Reliable assumptions need to be based on detailed gender needs assessment. Gender needs assessment itself needs to be grounded in the analysis of key practical and strategic interests.

Molyneux (1985) describe interests as derived in the first instance deductively, that is, from the analyses of women's subordination and from the formulation of an alternative, more satisfactory set of arrangements to those which exist. Practical gender interests are described as being derived inductively and arise from the concrete conditions of women's positioning within the gender division of labour.

How relevant are courses and programme to the felt needs of women? Surveys of potential women learners can offer valid information on courses or programmes that need to be developed, their level and suggestions for their delivery mode. The validity of the assumptions generated would, of course, be specific to the category of women surveyed - the anticipated target group. Further, the felt needs of women tend to revolve around practical gender interests.

Addressing strategic gender interests can take various forms. Designing courses which interweave issues of strategic gender interests with those of practical gender interests is one basic form of intervention. Take the example of a course on nutrition for the family. Emphasizing the need of women and young girls to consume nutritious food according to recommended dietary intakes is tackling a practical gender interest. On the other hand, material which makes a strong case for changing intra-family distribution of food is promoting a strategic gender interest.

This discussion leads us to other vital focal issue in social audit : What are the goals of the educational intervention? Who sets these goals? Do these goals promote gender equity?

Educational goal setting is intimately linked to policy underpinnings in open learning institutions. Applying the classification of Kabeer (1995), Open Universities can adopt policy stances which are gender-neutral, gender-specific or gender redistributive/transformative. These different approaches, however, are not necessarily mutually exclusive for an institution. Kabeer (1995 :11) states that in certain contexts, the adoption of gender-neutral or gender-specific policies provides women with new, socially valued resources on terms which strengthen their bargaining power, and help them to renegotiate their position within the family and community. Ultimately, it is the intentions as well as the kinds of social relationships which different policies embody for women and men which, in determine their potential for redistributive or transformative goals.

Gender-neutral policies do not challenge existing divisions of learning resources and responsibilities. A gender neutral policy leads to self-instructional materials which are predominantly instructional.

Gender-specific policies favour targeting activities and learning resources which women are likely to control or benefit from. These may also leave the existing division of resources and responsibilities intact. A gender-specific policy may lead to identification of courses likely to upgrade the skills of women learners. Self instructional materials would serve instructional objectives but would also to a certain extent address the need for conscientization.

On the other hand, gender-redistributive/transformative policies seek to actively change existing gender relations through more even distribution of learning resources and responsibilities. Such a policy would lead to self instructional objectives. Adoption of gender transformative policies by open learning institutions can result in learning material which become effective vehicles to combat gender relativism and bring us closer to the vision of equal partnership envisaged by Gore (1988 :48)

How can we analyze whether educational goals are being met? Developmental testing or using prototype self instructional materials with potential learners can offer comprehensive feedback at a stage where it is possible to take substantial remedial action. As mentioned earlier, the key question that needs to be asked is: Do the goals set promote gender equity? Analysing responses of women and men to course materials can offer insights into removing possible gender biases. More important, it can tell us how to design courses addressing women's issues and concerns.

Gender sensitive approaches to policy and planning also imply an analysis of institutional mechanisms by which different educational goals are met. Such an analysis will help to clarify the extent to which institutional processes and outcomes are efficient and equitable. Further, where efficiency or equity goals are not met, such an analysis will help to identify sources of failure and to design policies and

operational systems which either seek to correct the failure or provide alternative institutional mechanisms for achieving desired goals.

In the context of curriculum design for women's empowerment, open learning institutions could adopt a two pronged approach to educational goal setting.

- Addressing women's needs dictated by their triple roles reproductive, productive and community management (addressing practical gender interests).
- Changing the assumptions and perceptions of both women and men about what women can/should learn and the range of life options they should be able to exercise (addressing strategic gender interests).

A clearly articulated gender policy would help to resolve issues such as the following :

- What kind of courses would be of special interest to women?
  (Implication : Community Surveys - who will conduct and which tools would be used?)
- Is it necessary to change the perceptions of women about what they would like to learn/suitable disciplines to meet their needs even if they are technical and tend to be male dominated?
  (Implications: Social marketing - how will this be done through advertising and multimedia package?)
- Should all courses/programmes in the universities offer inputs on women/of benefit to women learners?
  (Implication: Course design and changing attitude of the academic community involved)
- Should specific courses/programmes be designed to concentrate on elements of gender relations and creating an impact by changing perceptions of both men and women?
  (Implication: Social Marketing)

In many ways open universities are more free to design curricula in a new mold. At a substantive level they can challenge conventional ways of 'thinking & doing' in curriculum design (Thomas, 1996). However, constraints are imposed by the need to recognize and definitions of academic standards. This does not negate the fact that open universities can adopt curricula more in tune with women's practical and strategic gender interests. Moser (1989) has suggested that by identifying different gender interests it is possible to translate them into planning and training needs; in other words the means by which gender concerns may be satisfied.

The strength of an open university is that the resource groups which set educational goals, develop the curriculum and prepare the course material can be varied according to the specific needs and objectives.

Social Audit of Gender Sensitivity in Open Learning Systems :

Programme Delivery and Learner Support

A focal issue which needs careful consideration is educational interventions linked to programme delivery and support systems for learners. Are the inherent goals shared equally by women and men? If not, are there reasons for supporting the intervention on the grounds that it would enhance gender equity?

Programme delivery is an area where educational goal setting may vary for men and women. In order to retain women learners on university courses, it may be necessary to create support and delivery systems particularly responsive to their needs.

Some crucial points to be considered in devising gender sensitive student support services include

- Access of potential women learners to information about courses,
- Entry level interventions,
- Issues related to women's time and workload in relation to learner retention on courses and attendance at counselling sessions/contact programmes.

Open learning institutions can address the first point by information sharing or social marketing tools specifically used in settings familiar to women or likely to reach a large number of women. Interventions may range from an advertisement in a women's magazine to promotional videos aimed at local cable networks; promotional leaflets or brochures relating to programmes of special interest to women in professional institutions to publicity measures in community centers.

While open learning institutions do enhance the chances of women enrolling in courses, there is still the need to combat persistence of women in less promising areas of education and employer's resistance to hiring them in sectors other than those they define as appropriate for women. Potential women leaaners themselves need to be targeted in order to promote entry of women into areas of study which may not be socially construed as appropriate. This would be a long term strategy which could ultimately result in the "feminization" of certain preferred employment sectors and improved representation in better paid professional areas. This may necessitate positive discrimination in favour of women such as relaxing eligibility criteria or resetting cut off points for women in entrance tests.

Rathore, Singh and Dubey (1996) have suggested that a problem area for women distance learners is getting requisite tutorial and counselling help. Scheduling of counselling sessions needs to be based on a recognition of the multiple demands on the time of women learners. Women have to balance a range of different roles. This would have implications for their ability to participate in planned interventions such as counselling. Suitable time, day and place are key factors in promoting better attendance of women at counselling sessions. However, since study center space is available to open universities on holidays or weekends, institutional constraints become operative. Nevertheless, a detailed analysis of time use patterns of women learners would offer useful insights.

Personal experiences with counselling at IGNOU have revealed the interesting tendency of learners to develop informal support networks. Open learning systems can encourage formation of self help groups for women learners on a particular course or programme. Discussions within these groups of learners who are in touch with each other helps women to share their experiences and solve their problems. This helps to overcome the isolation and self doubt experienced in coping with heavy workloads on distance learning courses.

Personal experiences with counselling also indicate that the learners frequently perceive work as a difficult component of their programme. Women learners particularly appreciate their informal support groups to be retained when they approach a project counsellor. Requests from a group of men for being attached to the same counsellor were rarely expressed.

Training counsellors to specifically focus on problems of women learners is a crucial input. Counselling distance learners is, in itself, a challenging task It needs to be emphasized that each counselling session brings with it its own dynamics since the nature of the learner group varies. Individual learners may attend intermittently. Assumptions cannot be made about the level of progress of any learner or all those attending a session since each is setting a pace for himself or herself. The counsellor, therefore, often has to address needs of learners at widely varying stages of progress. This is like constantly "walking the tight rope" balancing the interests of slower learners with those at a more advanced level.

Some women learners may be different, less likely to express their opinions or seek solutions to problems. Patient encouragement can break down barriers and enable them to participate actively and develop confidence in their own ability to cope with course work. Recognizing the value of their own life experiences is an important input the counsellor can offer to women learners who are older and may never have attended formal educational institutions. Activities during a counselling session can build on respect for women's existing knowledge, experience and skills.

Social Audit of Gender Sensitivity in Open Learning Systems : Evaluation and Feedback

As stated earlier, the third key issue raised by Kabeer (1992 :36) in the context of social audit is : Whose interests are being promoted through the intervention?

Participatory course or programme appraisal could be one technique of collating data on how women learners relate to the self instructional materials and their concerns while studying them. Is it really serving their interests? Has it contributed to attitude change? Are course materials perceived as useful and why? Do the learners view the materials as gender-neutral, gender-specific or gender redistributive/transformative?

Another technique of obtaining feedback on gender differentials is looking at the learner profile and relating this to learners performance. Are there differences in retention and scores for women and men? Is this correlated with their entry level qualifications?

A third technique could be focussing on collating data on counselling sessions. Was attendance representative of the learner profile? Did women learners face problems of access? How did women find

the learning environment created by the counsellor? Do they find it more comfortable to be counselled by a woman? If so, why?

Answering questions such as these are crucial in evolving alternative mechanisms for addressing needs of women learners particularly those from educationally disadvantaged backgrounds.

Conclusions

The major points that emerge from this paper include :

- Practical and strategic gender interests should form the core of any course designed to meet the needs of learners within and across disciplines.
- Gender needs assessment and development testing are useful tools in fine tuning curriculum design to meet practical and strategic gender interests.
- Open learning systems can adopt policy stances which are gender-neutral, gender-specific or gender-transformative. These stances need not be mutually exclusive However, the implications of adopting each stance need to be carefully explored
- Information sharing and social marketing can be suitably employed to improve participation of women learners in male dominated programmes and vice versa.
- Informal support networks may be more important for women and may help them continue with their courses. Their counselling needs may need to be more intensive and personalized. Hence the system needs to offer specialized services to women learners with problems of time and workload

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A Week in the Life of an Open Learner

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Introduction

This paper is divided into three main sections. The first part gives an overview of the major project of which the study of open learners was a sub-project. In particular, it describes the instruments that were used for data gathering, as the general approach may be of interest and use to other researchers. The second part focusses on the results that were obtained for the part-time open learning students. Both the qualitative and quantitative data are examined, revealing patterns of study and the time students spend at their courses. The third part gives attention to individuals, revealing the variety of ways that students balance their study demands with those from families and work. A brief case study of a particular student is included, showing the length to which students will organise their lives in order to succeed as an open learner.

The Major Project

This research work from which the study of open learners emerged was a large research project involving most of Hong Kong's tertiary institutions. The government-funded project, 'A week in the life of a Hong Kong student', was designed to examine the 'total' university student experience by gathering data on the following questions :

- How do you spend your time?
- Where, when and how do you study?
- What are the requirements of your course and how do you cope with them?
- What problems have you encountered and how did you deal with them?

The researchers, drawn from most of Hong Kong's seven universities, adopted an open and holistic framework in looking for insights and constructs. The approach needed to be open and student-centred to allow the 'true' student perspective to emerge. The framework thus recognised existing uncertainties as to what factors are important to students (Biggs, 1992; Kember & Gow, 1991; Ng, 1986). There was thus an effort to adopt a second-order student perspective rather than a first-order researcher or theory driven approach. After much discussion within the research team, the decision was made to gather data through a combination of interviews and diaries.

The sample for diaries and interviews consisted of 17 classes, chosen across the seven universities in Hong Kong, to give a representative spread of disciplines and year of study. Of the 17 classes, 15 were from conventional universities, and contained full-time students engaged in a variety of courses. The remaining two classes involved part-time open learning students. All members of each class were asked to complete a detailed diary for one week. A smaller sub-sample was interviewed, and a separate group of students participated in a series of video-recorded focus group interviews on selected topics.

In all, 185 diaries were collected, containing reports on 39,000 hours of student activity, covering all aspects of their lives. In addition, there were 70 individual interviews, and 80 students were involved in focus group interviews.

Filling in the diary was quite a demanding task for each student. It covered a period of seven days, and for each day there was a double page spread. The left-hand page (Figure 1) had a fill-in-the box grid, while the facing page (Figure 2) had space for written comments. The left and right-handed pages were divided into corresponding hourly slots.

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As Figure 1 reveals, for each hour there were four closed response questions, and students were asked to pick one predominant category :

- Subject, if any, studying (6 categories)
- Type of activity (15 categories)
- Individual or group activity (6 categories)
- Language used (6 categories)

As well as the seven-day diary format, students were also asked to provide basic demographic information, and to complete the Study Process Questionnaire (SPQ) (Biggs, 1987, 1993). The SPQ is a quantitative instrument which has been used in a variety of settings and countries to measure students' approaches to learning, focussing on Deep, Surface and Achieving approaches, in terms of both motivation and strategy. Finally, the diary also included a workload perception scale, which gave students the opportunity to give their personal perception of the workload of the course which they were studying.

To gather the data, a week was selected about two thirds of the way through a semster. Diaries were handed out to classes shortly before the week of completion, and given out in a timetabled slot with the contact lecturer present. Interpretation of the quantitative categories was discussed with each group.

Interviews were held with a sample of students from each of the classes selected for completing the diaries. The interviews were semi-structured and lasted for about one hour each. The interview topics included courses and teaching methods, workload, study habits and methods, interpersonal contact, language use, out-of-class learning and leisure activities.

The task of analysis and coding was divided among a number of teams of researchers, and each team was allocated one or more of a set of topics of interest. All coding was stored on one master database so that cross topic analysis could eventually be performed. The authors of this paper analysed the data from the part-time open learning students. Other initial analysis topics included characteristics of HK students, learning in the classroom, learning outside the classroom, interaction with peers and tutors, workload and leisure activities.

Data Analysis of Part-time Open Learning Students

The study of open learners focussed on several major questions :

- How do part-time open learning students differ from their full-time counterparts?
- How do such students integrate their studies with the demand of work and family?
- What is the nature of contact between open learning students and their classmates/faculty?
- What patterns of study do open learning students follow?

Two classes of open learning students participated in this study. In total, 26 diaries were collected. This gave us basic quantitative information about the way the open learners spent their time. To better understand the experiences and feelings of part-time open learning students, we also conducted in-depth interviews with nine of the students.

Differences between open learners and full-time students

The diary data obtained from the open learners were compared with those obtained from full-time students (Table 1). Here 'Formal study' refers to the time spent on lectures, tutorials, laboratory work and other courses. It should be noted that open learning courses in Hong Kong typically have a significant tutorial component. 'Independent study' refers to the time spent on revision, assignments, consultations with tutors and private study. 'Other activity' refers to the time spent travelling, eating, job, sleeping club/society and other activities.

Table 1 : Time spent on study and other activities

	Full-time students (N=302)		Open learning students (N=26)	
	Mean	SD	Mean	SD
Formal study	17.2	(6 1)	2.3	(3.1)
Independent study	26.2	(12.6)	16 6	(9.7)
Other activity	74.8	(13 6)	98.7	(10.2)

As expected, the findings indicate that open learning students spent much less time on their studies (including formal and independent study) and more time on other activities. When comparing the various items that contributed to 'Other activity', we found that the major difference between the full-timers and open learners was in the time they spent on job and other activities, like domestic duties (Table 2).

Table 2 Time spent on each type activity

	Full-time students (N=302)		Open learning students (N=26)	
	Mean	SD	Mean	SD
Travelling	11.6	(4.5)	11.9	(6.1)
Easting	15.6	(3 8)	14.4.	(3.7)
Job	2.6	(5.7)	28.9	(13.1)
Sleeping	15.6	(6.4)	17.1	(13.8)
Club/Society	1.3	(2 7)	1.4	(1.6)
Other	18.1	(11.2)	25.2	(11.3)
Other activity	74.8	(13.6)	98.7	(10.2)

Open learning students were also found to spend less time on their own, with friends or classmates, as they spent more time with their work colleagues and families (Figure 3). Not surprisingly, the data suggest that open learning students generally have significant commitments to work and family in addition to their role as a part-time student. Such differences between full-time students and part-time open learners are expected to exert different influences upon the academic progress of the two types of student.

Integration

Though the quantitative data did not reveal particularly surprising results, it did confirm expected differences between the study patterns of open learners and those of full-time students. Further, the data helped to focus attention on other important aspects of the open learners' lives. Thus, the interview data further explore the difficulties faced by the part-time open learning students in trying to integrate study requirements with the continuing commitments of work and family. The following quotations are derived from students' responses to the question 'Is there any conflict between your study and your work or family' :

- *I have to work overtime frequently. When I spend time on my work, I cannot study. But when I must do my homework before the deadline, things get piled up in my office.*
- *My workplace requires me to take another course. I find it too much ... I am so exhausted that I don't want to study the materials...*
- *I usally tell my family that I am studying... and I don't have time... Sometimes, I also give in to my family.*

If my elder daughter is going to have an exam, I will spend time with her and put my study aside.

The quotations reveal that conflict indeed exists between some open learners' study and their work or family. Time at work is obviously in direct competition with a student's time to study. Work demands also consume much of a person's energy, making it more difficult for an open learner to concentrate on his/her study. Family obligations are often another source of pressure to the adult students. In particular, those with children face quite a difficult time in trying to strike a balance between time spent on study and with family.

While it appears that it is not easy for open learning students to balance the demands of their courses with the pressures of work and family life, some students explained how they manage to cope with competing demands. What the following student did to reduce the conflict was to set a study plan.

Even if there are situations in which I need to go on a business trip and complete my assignment at the same time, I would start earlier to do my assignment in order to avoid asking for extension. It is troublesome if I have to extend the time of study in one subject because it will screw up my original plan. It is important for me to have a study plan.

To integrate work and study, the student also choose to do a work-related subject. The knowledge and experience gained from his work then helped to relieve part of his study load.

As I am working in the field of accounting, I need not make any extra effort on subjects like Fundamental Accounting... On the other hand, as I do not have any knowledge in Economics, it is better for me to choose Fundamental Accounting together with Economics, so that I can spend more time on Economics. This makes my study easier

Further investigations might help reveal the various strategies that successful students adopt to cope with difficulties in following an open learning course.

Contact with classmates and faculty

The diary data revealed that open learning students spent less time with their classmates when compared with full-time students (see Figure 3). In the follow-up interviews, it was confirmed once again that there were limited contacts among the open learning students. Clearly this affects the levels of friendship and thus the ability to work together that are achieved between open learners.

We talk in class. We rarely have other contacts, not even by phone.
I am still very detached from my fellow students. Up to now, I haven't met one whom I know well.

The mode of study obviously offers fewer opportunities for an open learner to meet with other students. Moreover, students often go to different classes when a course is finished. This makes the keeping of relationships difficult. Another reason for the limited contacts is due to the other commitments of open learning students.

I think it's difficult (to establish contacts)... as we have our work and family.

When contacts did occur among the students, we found that they were mainly about their studies, and rarely for social purposes.

We only talk about things that we don't understand. We may ask each other for exam tips.
We seldom talk about our personal matters. In fact, we have our own friends outside... Thus, we only treat each other as classmates and only discuss academic matters.

When examining the extent of interaction of the students with the course coordinator, we had similar findings. Open learning students rarely contacted the course coordinator, except when serious problems occurred or for administrative reasons.

I think it is very serious when we contact the course coordinator.

The course coordinator will be contacted only when there is a problem, say, concerning the exam, or when we want to apply for extension of assignment deadline, or comlain about the tutor.

Such findings deserve attention, as the low levels of contact could mean that open learners have difficulty in developing a sense of belonging to an institution It has been suggested that collective affiliation is an important factor that has influence on drop-out rates (Mahony and Morgan, 1991; Kember, 1995).

Most open learning courses have face-to-face tutorial meetings as part of the academic support system for open learning students. We therefore also asked students about their relationships with the tutors. The interview data indicate that interaction with tutors took place mainly in tutorials, or through telephone contacts. The contacts usually concerned questions about study materials, assignments or examinations. Students seemed to find such contact useful. Nevertheless, different students met different tutors and the resulting experiences had clear contrasts.

As I am not seeing the tutor all the time, he allows us to contact him by phone. I think it's quite useful.

In fact, I seldom call the tutor.

I ask the tutor questions whenever I encounter difficulties in my study. This is usually around the time of assignment or exam.

In many cases, it appeared that the frequency of contact was dependent upon the quality of the tutor, especially whether he or she was perceived as knowledgeable or helpful.

Whether I ask the tutor questions depends on whether he is smart If he's smart, I'll ask more. If not, I wn't even attend his lessons!

The tutors are very helpful. Sometimes, you may not understand some concepts while reading... they can always help you by showing you another viewpoint or approach. Then you will understand.

I think most of the tutors can answer my questions and help me. But some can't.

In most open learning institutions, tutors are recruited on a part-time basis. Not only is the quality of the tutors hard to guarantee, but also the turn-over rate is often quite high. As there has been evidence that student contact is associated with persistence (Kember, 1995), the quality of the existing academic support system clearly warrants constant attention.

Study patterns

When investigating the study patterns of the open learners, we found that most learning occurred at home, although some also found alternative places for study.

I usually study at home. Sometimes there are visitors at home while I need to do assignments. Then I go to a nearby fast-food shop to study.

At home usually. I have also used the... study room twice.

I usually do my study at home or in the office. Sometimes, you may study there (in the office) when everyone has left.

At home. If I have to find some references, I will stay in the hospital library when I am off my work.

The home and family circumstances are, in fact, important in determining whether a favourable study environment can be attained for the open learners. This is reflected in the following comments made by students in interviews.

If your family is not considerate enough to give you a quiet environment in times of exams or assignments, conflicts may arise.

When I study at home, my children disturb me... this will divert my attention. I can't concentrate on my study.

Another finding from the interviews is that most open learning students followed an irregular study schedule. This could be for various reasons.

As I work on shift, there is no fixed timetable (for study).

In the period when I am doing the assignment, I will study every night after 9 when my children have slept. But if I have submitted the assignment, I will only do revision on Saturday afternoon.

Due to the great diversity in the background and study characteristics of the open learners, it is not easy, nor in fact possible, to summarise a study pattern for them. A more revealing approach to understanding how open learners organise their studies is to look at the individual study patterns.

Individual differences in study patterns

In the previous section, we have examined in detail the accumulated and consolidated responses of the open learning students as a group But what do individual study patterns for open learning students look like? This section examines what can be revealed by focussing on an individual student.

To provide a general picture of how individuals organised their study time, we drew up standard weekly sheets, using the information in the diaries. Such sheets were able to give a quick visual impression of study patterns. Figure 4 shows such a sheet for a Business Studies student, and reflects what might be expected for such an open learner As a part-time student, this person studied most evenings through the week, as well as time in the weekend, in their total of 16 hours of study (note that there was a tutorial on Saturday afternoon).

	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
Before 8 a.m.							
8 a.m. to 9 a.m.							
9 a.m. to 10 a.m.							
10 a.m. to 11 a.m.							
11 a.m. to noon							
noon to 1 p.m.							
1 p.m. to 2 p.m.							
2 p.m. to 3 p.m.						X	X
3 p.m. to 4 p.m.						X	X
4 p.m. to 5 p.m.						X	X
5 p.m. to 6 p.m.						X	
6 p.m. to 7 p.m.							
7 p.m. to 8 p.m.							
8 p.m. to 9 p.m.					X		
9 p.m. to 10 p.m.	X				X	X	
10 p.m. to 11 p.m.	X			X	X	X	
After 11 p.m.				X			

Figure 4 Example of student's weekly study pattern

What was suprising was the amount of variation in the patterns. This variation exists not just for the overall pattern, but also for the number of study hours per week. Space does not permit a complete set of sheets to be shown, but it can be noted that the number of hours varied from zero to 34 hours, and students reported that they studied at virtually all hours of the day and night.

Case study

As mentioned, we believe it is instructive to examine the study patterns and habits of individual students, in order to reveal particular findings that might be lost in collective data. The following discussion relates to a single open learner studying a nursing course, and seeks to answer the questions:

- What does the data for an individual student reveal?
- How does this student integrate the demands of study with work and family pressures?

First, it is clear that the student (here called Kar Ling) felt considerable pressure:

> *I find this course demanding at the beginning I have a period of depression. My mood is swinging drastically. I have to push up myself to finish this course.*
> *I have to learn lots of knowledge within a short period. There is not enough time for me to absorb. That is not good.*

What also emerges is that the pressures, for the most part, emerge from a combination of work and family presures:

> *... my limitation is that I have to work and take care of two children, thus I have little time to study. I do not know whether I am right or wrong because I am studying alone. I do not have discussion with teachers or classmates on what I am studying. That's a pity.*

> *The distance between my home and the hospital is quite far away. I have spent some time on the travel. That makes me tired. I do not have normal sleeping time since I have to work at night and I have to take care of my children in the afternoon.*

This student's personal solution is not have a firmly fixed schedule for study, but to make the most of opportunities as they present themselves. As she explains:

> I do not set a fixed schedule for my study. I think a flexible study habit is more suitable for me. ... I will study when I am free (day off) I will also study when I am not busy with my work at night. I always bring some notes with me.

As a result of this flexibility, the pattern of study for the week under innvestigation is as follows:

	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
Before 8 a.m.							
8 a.m. to 9 a.m.	X	X					
9 a.m. to 10 a.m.	X	X					X
10 a.m. to 11 a.m.	X	X					X
11 a.m. to noon	X	X					X
noon to 1 p.m.							
1 p.m. to 2 p.m.							
2 p.m. to	X	X					X

3 p.m.							
3 p.m. to 4 p.m.	X		X				
4 p.m. to 5 p.m.	X					X	
5 p.m. to 6 p.m.	X					X	
6 p.m. to 7 p.m.					X		
7 p.m. to 8 p.m.							
8 p.m. to 9 p.m.	X		X				
9 p.m. to 10 p.m.	X						
10 p.m. to 11 p.m.				X		X	
After 11 p.m.				X		X	

Saturday

The weekend is not a time for rest and relaxation, as the first entry for Saturday clearly shows.

> *I get up at 05:20, and go to the hospital by bus at 05.30. I arrive at the hospital at 06:40 and go to work at 07:00. Then I have my breakfast with my colleagues. (Diary entry, Saturday)*

There is then the usual morning of work in the ward, joining the doctor for the ward round of prescribing treatment, giving instructions to the student nurses, preparing the injection chart, giving intravenous injections, checking treatment, monitoring intake and output charts, answering patients' questions and telephone queries, writing the nursing report, tracing an FNA (fine needle aspiration) report and collecting a swab culture from the laboratory. The lunch hour at noon is a welcome break, and allows her time to chat with her colleagues in the rest room.

In the two hours of work after lunch, Kar Ling treats a post-operational patient, admits a new patient and tends a patient with high fever. There are also administrative duties to fulfill, including the operation list for Monday.

Leaving the ward at 3 p m., there is time for a quick bath before heading off by KCR to a tutorial class. The tutorial runs for two hours from 4 p.m , and Kar Ling contributes by answering some of the tutor's questions. There's time for some brief discussions with her classmates after the tutorial before heading for home.

> *I go home at 6:25 p.m. by KCR and bus. Sleeping or thinking in the bus - thinking of the assignment. (Diary entry, Saturday)*

Although a welcome part of her study arrangements, the interaction that she has with both tutors and her fellow students can be frustratingly fleeting, or even unhelpful.

> *'I have no time to prepare for tutorials. Also, I forget the content of the tutorials since I may have finished the suggested reading long time ago. Sometimes, the content is new to me and I have not prepared for it. Thus, I do not understand.*
> ...'
>
> Io only see my group members in tutorials. We greet and discuss about the assignments or other academic affairs. Most of them are very shy and passive. We do not know each other. We seldom talk. I have two colleagues who study (the course) with me together. They rely on me heavily. I always have to answer their questions.'
>
> Interviewer : 'Do you and your peers spend time helping each other in learning outside the class hours?'

'We do not develop any practices that can help each other in learning. If we can develop study group, it is good. But it is almost impossible to gather the group members together since we live scattered.'

It's nearly quarter to eight by the time Kar Ling arrives home, where she enjoys dinner, followed by relaxing in front of the television and reading the paper. After an hour's rest at 9 p.m., she gets back to some reading and preparing for the assignment before bed.

Clearly this student has to make considerable sacrifices in her personal and professional life to continue her studies. While not all open learning students may need to go to the lengths required in this case, our research does indicate that it is by no means uncommon for such students to be spending far more time at their studies than is indicated by typically suggested study hours.

Conclusions

The research findings that we have reported here confirm and extend earlier work on the need for open learners to be able to integrate their study demands with the demands of families and employment. That is, student progress in open learning courses is more dependent on their success in the integration of competing demands on their time and attention than on background demographic variables (Kember et al., 1992, 1994; Kember, 1995).

Further, this research has indicated that the ways that students achieve integration is for the most part an individual matter. Clearly, individual context is paramount, so that each student has to determine a pattern of study, home and work life that fits their circumstances and needs. For some students, this may entail setting a strict study regime, while for others, they must be ready to grasp each study opportunity as it becomes available.

Thus, in counselling their students, open learning institutions must be aware that simple global recommendations on how and where to study are likely to be limited help. Rather, students should be encouraged to examine their personal situation and determine what is best for them - that is, the meta-cognitive process of 'learning how to learn' should include the ability to assess one's own circumstances and react appropriately.

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Fig. 1 : **Example of left hand diary page**

Day : Wednesday **Time : 3:00pm - After 11:00pm**

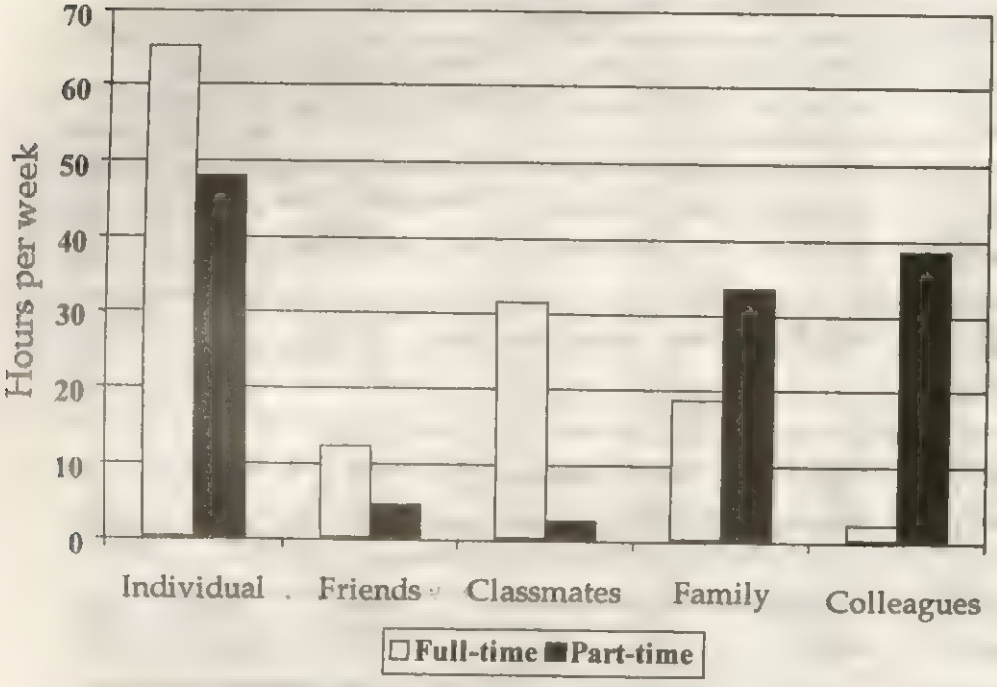
Time	Subject	Activity			Grouping	Language
3:00pm to 4:00pm	○ Core ○ Non-core ○ Language ○ Project ○ Other courses ● Not studying	Formal Classes ○ Lecture ○ Tutorial ○ Laboratory ○ Other classes	Other Study ○ Revision ○ Assignment ○ Consulting with lecturer ○ Private study ○ Other study	Leisure/Other ○ Travelling ○ Eating ○ Job ○ Sleeping ○ Clubs/societies ● Other activity	● Individual ○ Classmates ○ Family ○ Friends ○ Others ○ Work Colleagues	○ English ○ Cantonese ○ Putonghua ○ Other ○ Mixed ● None
4:00pm to 5:00pm	● Core ○ Non-core ○ Language ○ Project ○ Other courses ○ Not studying	Formal Classes ○ Lecture ● Tutorial ○ Laboratory ○ Other classes	Other Study ○ Revision ○ Assignment ○ Consulting with lecturer ○ Private study ○ Other study	Leisure/Other ○ Travelling ○ Eating ○ Job ○ Sleeping ○ Clubs/societies ○ Other activity	○ Individual ● Classmates ○ Family ○ Friends ○ Others ○ Work Colleagues	○ English ○ Cantonese ○ Putonghua ○ Other ● Mixed ○ None
5:00pm to 6:00pm	● Core ○ Non-core ○ Language ○ Project ○ Other courses ○ Not studying	Formal Classes ○ Lecture ● Tutorial ○ Laboratory ○ Other classes	Other Study ○ Revision ○ Assignment ○ Consulting with lecturer ○ Private study ○ Other study	Leisure/Other ○ Travelling ○ Eating ○ Job ○ Sleeping ○ Clubs/societies ○ Other activity	○ Individual ● Classmates ○ Family ○ Friends ○ Others ○ Work Colleagues	○ English ○ Cantonese ○ Putonghua ○ Other ● Mixed ○ None
6:00pm to 7:00pm	○ Core ○ Non-core ○ Language ○ Project ○ Other courses ● Not studying	Formal Classes ○ Lecture ○ Tutorial ○ Laboratory ○ Other classes	Other Study ○ Revision ○ Assignment ○ Consulting with lecturer ○ Private study ○ Other study	Leisure/Other ● Travelling ○ Eating ○ Job ○ Sleeping ○ Clubs/societies ○ Other activity	● Individual ○ Classmates ○ Family ○ Friends ○ Others ○ Work Colleagues	○ English ○ Cantonese ○ Putonghua ○ Other ○ Mixed ● None
7:00pm to 8:00pm	○ Core ○ Non-core ○ Language ○ Project ○ Other courses ● Not studying	Formal Classes ○ Lecture ○ Tutorial ○ Laboratory ○ Other classes	Other Study ○ Revision ○ Assignment ○ Consulting with lecturer ○ Private study ○ Other study	Leisure/Other ○ Travelling ● Eating ○ Job ○ Sleeping ○ Clubs/societies ○ Other activity	○ Individual ○ Classmates ● Family ○ Friends ○ Others ○ Work Colleagues	○ English ● Cantonese ○ Putonghua ○ Other ○ Mixed ○ None
8:00pm to 9:00pm	○ Core ○ Non-core ○ Language ○ Project ○ Other courses ● Not studying	Formal Classes ○ Lecture ○ Tutorial ○ Laboratory ○ Other classes	Other Study ○ Revision ○ Assignment ○ Consulting with lecturer ○ Private study ○ Other study	Leisure/Other ○ Travelling ○ Eating ○ Job ○ Sleeping ○ Clubs/societies ● Other activity	○ Individual ○ Classmates ● Family ○ Friends ○ Others ○ Work Colleagues	○ English ● Cantonese ○ Putonghua ○ Other ○ Mixed ○ None
9:00pm to 10:00pm	○ Core ○ Non-core ○ Language ○ Project ○ Other courses ● Not studying	Formal Classes ○ Lecture ○ Tutorial ○ Laboratory ○ Other classes	Other Study ○ Revision ○ Assignment ○ Consulting with lecturer ○ Private study ○ Other study	Leisure/Other ○ Travelling ○ Eating ○ Job ● Sleeping ○ Clubs/societies ○ Other activity	● Individual ○ Classmates ○ Family ○ Friends ○ Others ○ Work Colleagues	○ English ○ Cantonese ○ Putonghua ○ Other ○ Mixed ● None
10.00pm to 11:00pm	● Core ○ Non-core ○ Language ○ Project ○ Other courses ○ Not studying	Formal Classes ○ Lecture ○ Tutorial ○ Laboratory ○ Other classes	Other Study ○ Revision ○ Assignment ○ Consulting with lecturer ● Private study ○ Other study	Leisure/Other ○ Travelling ○ Eating ○ Job ○ Sleeping ○ Clubs/societies ○ Other activity	● Individual ○ Classmates ○ Family ○ Friends ○ Others ○ Work Colleagues	○ English ○ Cantonese ○ Putonghua ○ Other ● Mixed ○ None
After 11:00pm	● Core ○ Non-core ○ Language ○ Project ○ Other courses ○ Not studying	Formal Classes ○ Lecture ○ Tutorial ○ Laboratory ○ Other classes	Other Study ○ Revision ○ Assignment ○ Consulting with lecturer ● Private study ○ Other study	Leisure/Other ○ Travelling ○ Eating ○ Job ○ Sleeping ○ Clubs/societies ○ Other activity	● Individual ○ Classmates ○ Family ○ Friends ○ Others ○ Work Colleagues	○ English ○ Cantonese ○ Putonghua ○ Other ● Mixed ○ None

Fig. 2 : Example of right hand diary page

Day : saturday **Time : 3:00pm - After 11:00pm**

Time	Comments
3:00pm to 4:00pm	After leaving a booth . I attend the tutorials which is take place at polyU . I go to polyU by KCR.
4:00pm to 5:00pm	I attend the tutorial . Answering the tutor's question and discussion with the classmates .
5:00pm to 6:00pm	Attending the tutorial (4pm to 6pm)
6:00pm to 7:00pm	I go home at 6:20pm by KCR and bus , sleeping or thinking in the bus . Thinking of the assignment
7:00pm to 8:00pm	I arrived at home at 7:40pm and have my dinner
8:00pm to 9:00pm	Watching the television and reading the newspaper .
9:00pm to 10:00pm	Taking a short rest for one hour .
10:00pm to 11:00pm	Fill in the student diary and read the book .
After 11:00pm	reading the book . and prepare for the assignment .

Fig. 3 : Time spent by Grouping



Teacher Education at a Distance: Towards a New Model

N.K. Dash[1]

Introduction

Teacher education has always been an important theme for the various commissions and committees set up from time to time to recommend for educational development in our country. Under teacher education inservice education of teachers has always occupied a significant place. It is because the teacher today faces many challenges, emanating from expanding horizons of knowledge as well as other forces impinging upon the consciousness of the pupils (Challenge of Education, 1985). The job of inservice education of teachers has been mainly the concern of institutions like NCERT, SCERT, DIETs and teachers training colleges. All these institutions carry out inservice education programmes through face-to-face mode in which teachers are called upon from their place of work to undergo training programmes for a fixed duration at these institutions. However, all in-service education programmes cannot be organised in face-to-face modality, especially in view of the numbers involved (Programme of Action, 1986). As on 1994, there are about 4.0 million teachers catering to the educational needs of 171.4 million school students at primary, middle, secondary and higher secondary levels (Selected Educational Statistics, 1994). Out of this number, more than 10 per cent of the teachers at these levels still ramains to be trained. Considering the number of teachers (both trained and untrained) to be provided inservice teacher education, the training facilities in face-to-face mode is very negligible. Hence, there is a need of searching for alternative mode of imparting inservice education to teachers. Distance education can be effectively used to impart teacher education to inservice teachers at all levels.

The present paper describes the Bachelor of Education (B.Ed.) programme which will be provided to the untrained inservice teachers of secondary schools by Indira Gandhi National Open University (IGNOU) through distance mode. The B.Ed. programme to be launched by IGNOU will act as a new model so far as teacher education at a distance is concerned. Before discussing the B.Ed. programme, it is relevant to know the development of teacher education programme through distance mode.

Teacher Education Programme through Distance Mode

The need for training teachers through distance mode was felt in 1960s when there were large number of untrained teachers in schools and there were inadequate teacher training facilities in the country. Realising that about 45 per cent of the teachers in schools were untrained in 1965, the All India Association of Teacher Educators adopted a resolution at their annual conference recommending that the untrained teachers in schools who have at least five years continuous teaching experience be trained through two consecutive summer school programmes with some correspondence lessons in between (NCTE, 1995). This programme, called the summer-school-cum-correspondence course (S.S.C.C.), was started by Central Institute of Education (C.I.E.) in 1966 and by the Regional Colleges of Education in 1970 (NCTE, 1995). C.I.E. stopped this programme in 1971 and the Regional Colleges of Education stopped this programme in 1985. The efforts of C.I.E. and the RCEs gave rise to a new model of correspondence-cum-contact programme for B.Ed. degree which was started in several universities. But there are a lot of differences with regard to teacher training inputs between the two models. In the Regional Colleges programmes, there was regular face-to-face mode of instruction for 16 weeks. Only about 1/3 of each theory paper was taught through correspondence lessons. The ratio of teachers to students was 1:10 (NCTE, 1995). In the S.S.C.C. programme of the Regional Colleges, there was demonstration lessons, regular submission of assignments. In the correspondence-cum-content course of the universities, 100 per cent of the theory course is covered through correspondence lessons and the

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contact programme is only for two weeks during which some main points of each paper are discussed (NCTE, 1995) There is no demonstration teaching, and supervision of practice teaching is rarely done. The enrolment in these courses varies from 3000 to 30000 The M D University of Rohtak enrolled as many as 33000 students in this programme in 1988-89 (NCTE, 1985). The NCTE (1995) looked into the deficiencies in various aspects of the correspondence-cum-contact B Ed programme offered by the universities and recommended that correspondence/distance education mode should not be used for pre-service teacher education for the first degree/diploma in teacher education However, it suggested that distance education can be effectively utilised for in-service education of teachers for upgrading and up-dating their knowledge in any special subject of teaching at the school or in any pedagogical subject

Teacher Education at a Distance: The IGNOU Model

The decline of standard and widespread commercialisation of the B.Ed programme through distance mode compelled Indira Gandhi National Open University (IGNOU), which has been entrusted with the responsibility of maintaining standards in distance education system in the country, to initiate and organise teacher education programme which can act as a new model and emerge as trend setter in quality for other teacher education institutions Unlike the teacher education programme provided by Correspondence Courses Institutes (CCIs) the IGNOU decided to target its teacher education programmes at the inservice teachers of primary and secondary schools It is because, a large number of inservice teachers at the primary and secondary levels continue to teach students without any formal training. In pursuance of the above decision, the IGNOU planned to offer Diploma in Primary Education programme to untrained teachers of primary schools and Bachelor of Education programme to untrained teachers of secondary schools The present paper focusses on the Bachelor of Education programme to be offered by the School of Education, IGNOU to inservice teachers of secondary schools

Objectives of the B.Ed. Programme

The broad objectives of the programme are to enable the beneficiaries

- to systematise their knowledge in teaching and strengthen their professional competency
- to understand various methods and practices needed for organising learning experiences to students.
- to develop skills required in selecting and organising learning experiences and in imparting instruction.
- to inculcate appreciation and understanding of the role of teacher in the socio-cultural and political context in general and the educational system in particular

Duration of the Programme

The minimum duration of the programme will be two years However, a candidate may be allowed maximum of 5 years to complete programme.

Programme Structure

The major emphasis in the B Ed programme would be on practical activities and realistic and relevant needs Skills, illustrations and cases of relevant situations alongwith activities would comprise the core of each course which would be suitably supported by theoretical aspects to the extent needed. The programme would consist of both theory and practical components having 50 per cent weightage for each The programme consists of four groups of courses and has 48 credits i.e. 1440 study hours at the rate of 30 hours per credit (School of Education, 1997) The four groups of courses are: (i) the core theory courses, (ii) the content-based methodology courses, (iii) the special courses, and (iv) the practical courses

Group A : Core Courses (20 credits = 15 + Practicum)

Under the core course, there are five courses. Each of the courses is of 4 credits out of which one credit is devoted to practicum. The five core courses are:

1. Curriculum and Instruction
2. Psychology of Learning and Development
3. Educational Evaluation
4. Education and Society

Group B : Content-Based Methodology Courses (8 credits = 6 Theory+2 Practicum)

Under Content-Based Methodology courses there are five courses. A student has to opt for two courses out of these. Each course carries 4 credits out of which one credit is for practicum. The five courses are:

1. Teaching of Mathematics
2. Teaching of Sciences
3. Teaching of Social Sciences
4. Teaching of English
5. Teaching of English

Group C: Special Courses (4 credits = 3 Theory + 1 Practicum)

To begin with, there will be four courses under the special course category. A student has to opt only one course. Each course is of 4 credits out of which 1 credit is for practicum. Special courses are:

1. Educational Technology
2. Computer in Education
3. Guidance and Counselling
4. Distance Education

Group D : Practical Courses

Practical Components of the programme carry 24 credits (16 credits for practical courses +8 credits of practicum from each theoretical course). Practical Components of the B.Ed. consist of the following:

1. *Practical/application-oriented assignments:* Each student is expected to work on eight assignments, one each from the eight courses, which will be practical/application oriented. These assignments could be developing a project work, preparing a model lesson/unit plan, case studies, action research, etc. These assignments will be evaluated by the academic counsellors and feedback will be provided to the students.
2. *School-based Activities:* A student of the B.Ed. programme during the course of training will undertake various kinds of school based activities. School based activities carry 4 credits. Each student has to carry out activities like preparation of school time table, organisation of sports and debates, organisation of community work, conducting action research, etc. He/she has to develop a report on each of these activities and submit to the university in a portfolio.
3. *Workshop-based Practicals:* All students of the programme are expected to attend a practical workshop of 12 days' duration to successfully complete the programme. Workshop-based practicals carry 4 credits. The workshop will be conducted at the programme centres by the resource persons experts in the field of education. In the workshop the students will participate, individually as well as in groups, in various activities and improve their teaching competencies. The workshop includes activities such as preparation and presentation of model lesson plan, preparation of teaching aids (charts, models, science kits, slides, transparencies, etc., simulated teaching, tutorial group/cooperative teaching, problem solving, role play, etc. Skills necessary for organising developmental activities in community will also be taken up. To conduct the workshop teacher educator of the programme centres will be provided orientation for organising and conducting the workshop.

4. *Practice Teaching:* Practice teaching constitutes the forth component of the practical courses It carries 8 credits. A student of the programme would deliver 40 lessons, 20 lessons each in two school subjects with written lesson plans in the school where he is teaching. Of these at least 10 will be fully supervised, evaluated under the appropriate guidance given by the supervisor appointed by the university.

Instructional Systems

The instructional system of the B.Ed. programme comprises multi-media packages which include printed material, audio programmes, video programmes, assignments (both theoretical and practical) academic counselling, workshop (face-to-face content), practice teaching, school based activities, teleconferencing telecast/broadcast and library facilities. The details of each component of the instructional system are discussed below:

Printed Material

The printed material constitutes all the theoretical courses in self-instructional style, programme guide, student handbook (practical) and resource persons handbook (practical). Each theoretical course consists of four blocks and sixteen to seventeen units. The programme guide comprise the guidelines which a student would follow while going through the self-instructional materials. Student Handbook (practical) consists of the guidelines regarding four components of the practical courses. Resource Persons Handbook contains the guidelines to be followed by the resource persons to organise the practical activities.

Audio-Video Programmes

The audio-video programmes in the B.Ed. programme function as supplementary materials to printed materials. They strengthen the theoretical knowledge of the students by of providing direct experiences on the various practices concerning secondary school education. There will be at least two video programmes and two audio programmes for a theoretical course.

Assignments

Assignments constitute an integral and compulsory component of the B.Ed. programme. These assignments serve the purpose of continuous evaluation of students performance. Assignments in the programme are tutor-marked. Assignments are both theoretical and practical in nature. Theoretical assignments comprise essay, and short answer type questions. Practical assignments focus on practical activities.

Academic Counselling

Academic Counselling constitutes the activity through which a student interacts with the academic counsellor (teacher educator) with regard to theoretical and practical courses in a face-to-face situation at local programme centre. Unlike usual classroom teaching or lectures, students clarify their doubts and overcome their difficulties which they face while going through the course. Audio-video programmes are used as triggers by the counselors for counselling. Students get opportunities to interact and socialise with their peers in these counselling session.

Workshop

Workshop aims at building the professional competencies and skills of students of the B.Ed. programme. It will enable students to meet and interact with distance teachers, other resource persons and with the peer group, to share experiences of their work situations among the peer group, to involve in individual and group activities related to various aspects of their job requirement, and to integrate their knowledge and experience related to classroom teaching. We have already discussed the type of activities to be organised during the workshop under the programme structure.

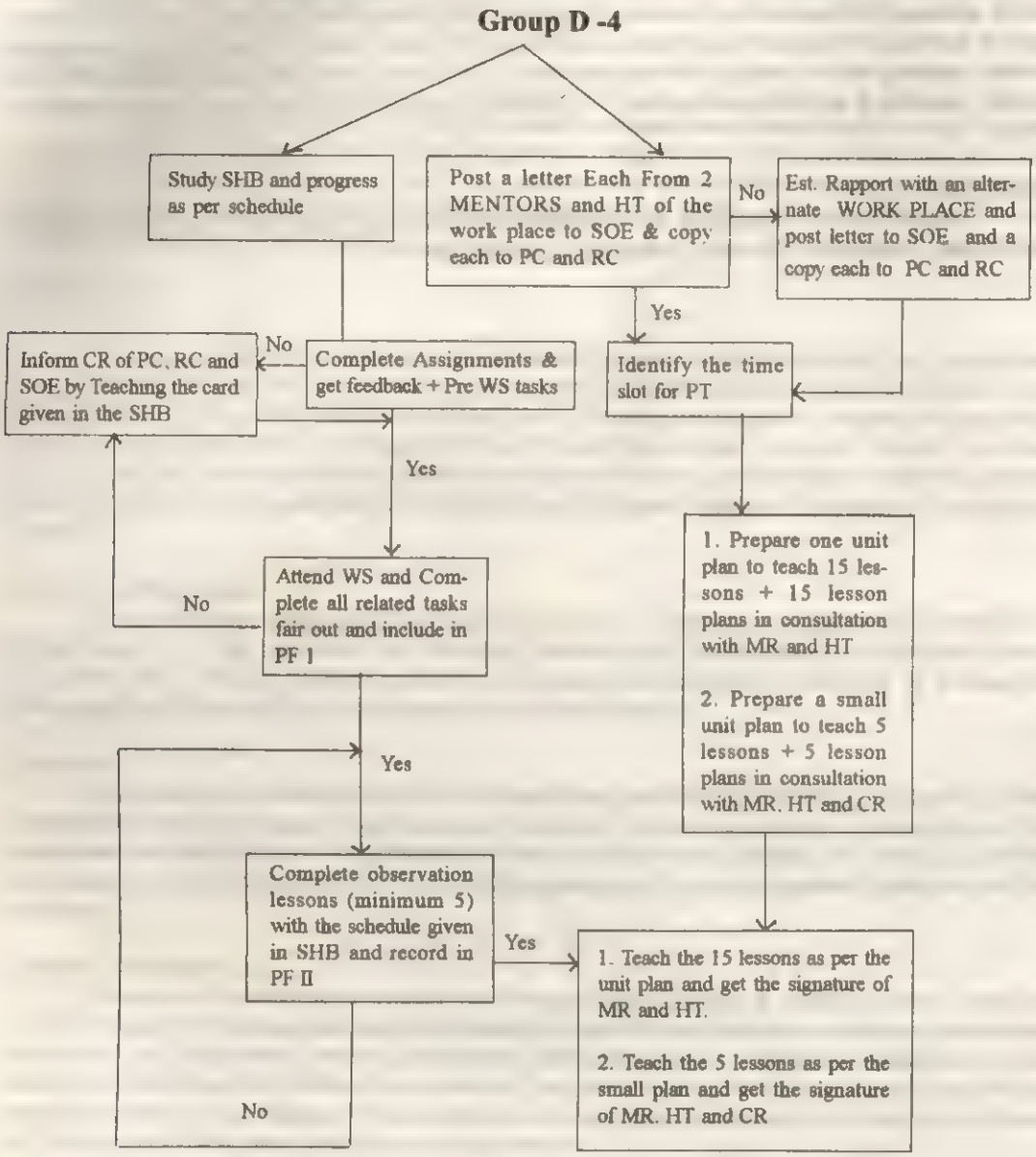
Practice Teaching

Practice teaching constitutes an important component of the B.Ed. instructional system. Each student is expected to deliver 40 lessons, 20 lessons each in two school subjects, in the school where he/she teaching. She has to select two senior teachers as the mentors who would act as the supervisor for practice teaching. The student should take the consent of the Head Teacher of the school for conducting practice teaching before entering into the programme. The school where the student would carry out practice teaching is called the work place. The detailed planning for practice teaching is presented in Fig. 1.

School-based Activities

School-based activities is one of the practical components of the B Ed instructional system We have already discussed on this aspect under the programme structure

Fig 1 Planning For Practice Teaching Group D-4



Source: School of Education and P. Arun Kumar (1995)

Teleconferencing

The IGNOU has the one way video and two-way audio teleconferencing facility which could be used to orient the resource persons involved in the training programme. It could also be used to train the students during the workshop using the resources and expertise of the IGNOU Headquarters.

Telecast/Broadcast

Students will be provided audio-video inputs through telecast/broadcast. Video programmes of the B.Ed. programme will be telecast by Doordarshan and audio programmes will be broadcast by All India Radio.

Library Facilities

Students of the programme will be provided library facilities available at the programme centres.

Management Structure and Functions

There are four layers of management structure to be involved in the B.Ed. programme These are

1. The IGNOU Headquarters consisting of the School of Education, Student Registration and Evaluation, Materials Distribution Division, Computer Division and Regional Services Division.

5. The Regional Centres (RCs).
6. Nodal Programme Centres (NPCs) and Programme Centres (PCs) Existing Teacher Training Colleges to be identified for the purpose. The number of NPCs and Pcs depends upon the student enrolment in a particular region.
7. Work place (The school where the student will carry out the practice teaching and school based activities).

The broad functions of each of these structures are as follows:

IGNOU Headquarters: Development of course material, Identification of Programme Centres in consultation with Rcs, Admission of the students, Distribution of course materials, Orientation of Resource Persons and academic counsellors, and Conduct of examinations and evaluation, Monitoring and feedback.

Regional Centres: Identification of Programme Centres, Admission of the students, Monitoring the activities of NPCs, Pcs and Wps, Providing feedback to NPCs Pcs and Wps, Orientation of Resource Persons and Academic Counsellors, and Organisation of examinations.

Nodal Programme Centres: Organisation of workshop activities for students, Conduct of counselling activities for students, Providing feedback on students assignments, Orientation of Mentors and headteachers from the workplaces, Organisation of demonstration lessons, and Monitoring the activities of the workplace.

Programme Centres: Conduct of counselling activities for students, Providing feedback on students assignments, Orientation of mentors and headteachers from the workplaces, Organisation of demonstration lessons, and Monitoring the activities of the workplace.

Work Places: Supervision of Practice Teaching, and Supervision of School-based Activities.

Orientation of the Field Staff

The field staff to be involved in the B Ed. programme are (i) The Resource Persons (Rps), (ii) The Academic Counsellors (Crs) and the Mentors and the head Teachers. Of the three sets (i) and (ii) would be trained by the School of Education through or without teleconferencing as a mode. The 3rd set would be trained by the Rps based on manual produced by the School of Education.

The RPs constitute following sets of individuals:

1. Regional Director (RD) and one Assistant Regional Director (ARD) of the Regional Centre.
2. Teacher Education Experts (1 or 2) who will look after Total Quality Management (TQM) in a particular region with the help of RD and ARD.
3. The faculty of NPCs including the Head of the Institution and the Programme coordinator of NPCs.
4. The faculty of PCs including the head of institution and the programme coordinator of PCs.

Instructional Delivery

Instruction in B.Ed. Programme will be delivered to students through a variety of means. A few instructional inputs would be delivered to students by posts from the headquarters. Certain instructional inputs would be delivered to the students at the NPCs, PCs and Wps. Some of these would be delivered simultaneously by Regional Centres and the Headquarters. The instructional delivery of the B.Ed programme is presented in Fig. 2.

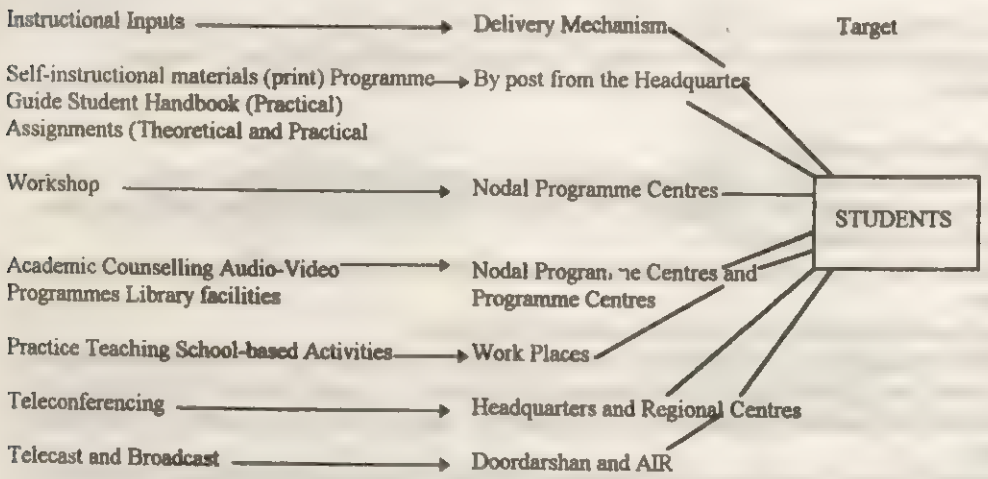


Fig. 2: **Instructional Delivery in B.Ed. Programme**

Instructional Evaluation

The performance of the students in all the theoretical courses and the practical courses will be evaluated. Those candidates who successfully complete the theoretical courses and the practical courses, by attaining the minimum grade requirements in each course (at least 'C' grade in a five point scale of A,B,C,D,E) would be eligible for the award of the B.Ed degree.

The evaluation system in the B.Ed. programme is as follows:

Theoretical Courses:

- Self-evaluation exercises within each unit of study.
- Continuous evaluation in the form of periodic assignments; this component carries weightage of 30 per cent for each course. The evaluation of assignments will be carried out by the academic counsellors.
- Term-end examination has a weightage of 70 per cent for each course. The evaluation of term-end examination will be done by external evaluators.

Practical Courses:

- Evaluation of practical oriented assignments by the academic counsellors.
- Evaluation of the performance of students in workshop activities by the resource persons in NPCs.
- Evaluation of ten practice teaching lessons (five each in two school subjects) by the resource persons of the PCs and the mentors and the head teachers.
- Evaluation of school based activities by the mentors and the head teachers and the faculty of the school of education.

All the activities under the practical courses will have 100 per cent weightage.

Term-end Examinations would be held in the months of June and December every year. The students will be at liberty to appear at any of the examinations conducted by the university during the year subject to completing the minimum time framework prescribed for the programme. This means a student can sit for the examination for the 1 year course in June and for 2 year course in December.

For a theoretical course, a student will have to obtain at least D grade in both continuous and terminal evaluation separately and for practical courses at least C grade. The overall average grade in theoretical courses should be at least C grade for the successful completion of a course.

Students Academic Calender

Students Academic calender for the programme is presented in Fig. 3.

Conclusion

Teacher education at a distance has been a matter of great debate in recent years, especially in view of the decline of standard and commercialisation of teacher education programme offered through correspondence courses institutes. Whatever the viewpoints coming out of these debates, attempts should be made to offer quality teacher education programme through distance education by exploiting the potentialities inherent with the system. The present paper discussed a new model of teacher education to be offered through distance education by the IGNOU. In this model, attempts are made to ensure quality in teacher education programme by taking several quality measures. However, the success of this model will be evident once it is implemented and evaluated.

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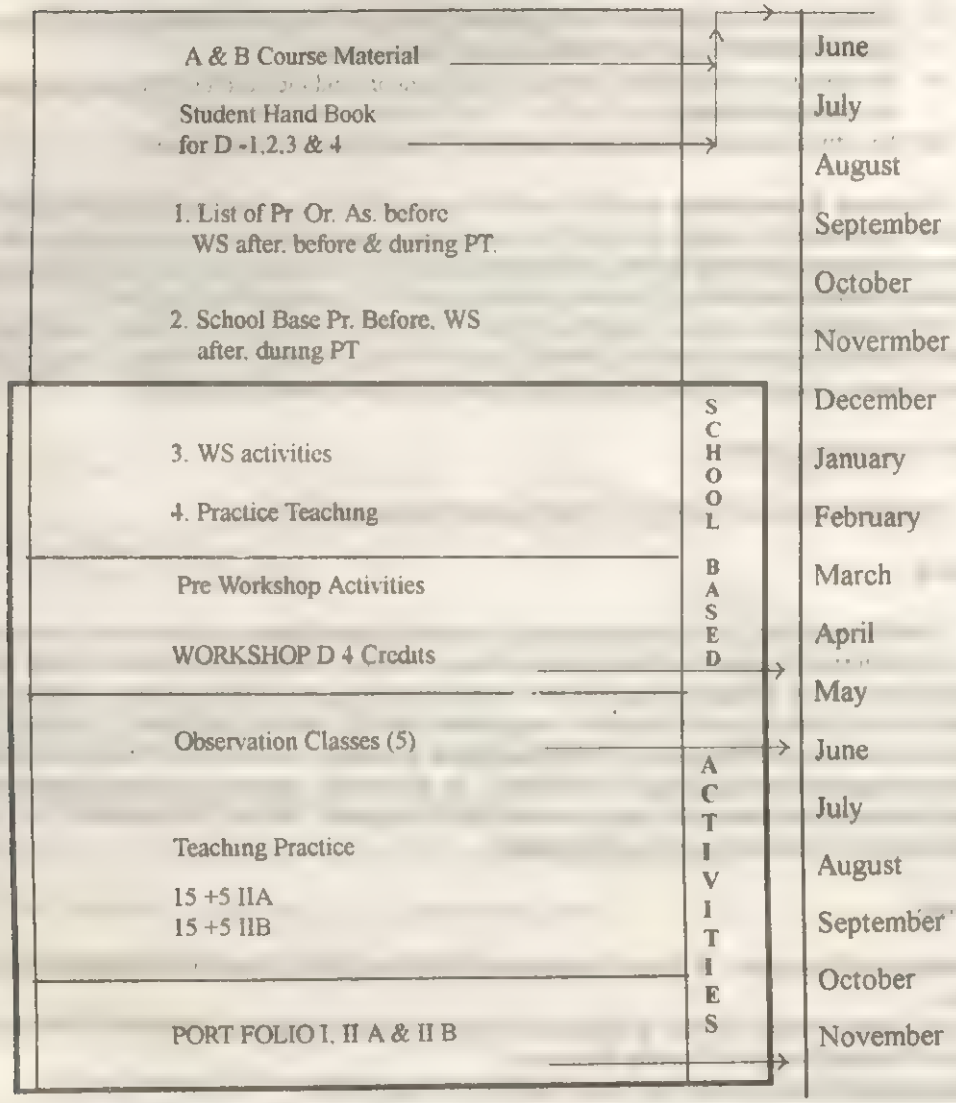
Fig. 3 Student's Academic Caender



Source: School of Education & P. Arun Kumar (1995)

Open Learners At School Level - Problems And Prospects

Oum Prakash Sharma[1]

During the past few years, it has been seen that both at the school and university levels in India, the number of the learners pursuing their education through open and distance mode is increasing At school level itself only one institution in India, i.e the National Open School, has a total enrollment of about 3,37,000 within a period of only five years which is increasing year after year During 1996-97 it was 93,703 as compared to 34,781 in 1991-92. This year, in 1997-98, it is more than one lakh. Undoubtedly, such increasing demand of the learners to continue their studies through open schooling is an indication of the suitability of the openness and flexibilities of the system for the learners. However, the available data at NOS reveal that despite so many flexibilities and openness, about 40% of the open learners drop-out before completing the desired course As per NOS records, out of total 34,781 students who enrolled during 1991-92, only 23,000 students could pass out in the given duration of 5 years to complete their course It indicates that there are certain problems which lie with the system. The increasing demand of education, alongwith in the indispensability of open learning system and true problems faced by the learners, makes it seems imperative to evaluate the open schooling system primarily from the learners' point of view This sort of study would enable us to rethink about the system, amend the strategy and enrich the distance education system as a whole and open schooling in particular

A few attempts (Kember 1980, 1989, Woodley and Parlett 1983, Von Prummer 1986, Sunanda Rao 1987, Hackman and Walker 1990; Sahoo 1992; Murli Manohar 1992, Surya Narayan 1992, Gaba 1994; and Rathor1996) have already been made to evaluate the existing open learning system and to find out the problems of the distance learners Yuen et. al 1994, conducted a study on the drop-outs of Hong Kong's distance learners and thus investigated the problems they face Woodley & Parlett 1983 studied the factors why the British Open University students withdraw before completion of the particular course Rathor (1996), tried to find out the problems of women learners in distance education but that too at university level Pathaneni (1996), assessed the problems of distance learners related to their motivation The Graduate Feed-back Survey conducted by Gaba (1994), and a study on learning difficulties of open learners at school level by Kandan et al (1995), gave some attention towards the problems of distance learners at school level But it did not give complete picture in this regard Thus, so far no extensive study has been carried out to exclusively look into the basic academic problems of the distance learners specially at the school level in India.

Keeping in view the need of such study a research project was carried out For this purpose 100 students of the NOS were interviewed personally All of them belonged to Delhi region only Brief description of the study and its findings forms the matter of this paper Though, it has been found that the learners face both academic and administrative problems, in the present paper only the academic problems have been dealt with.

On the basis of the analysis of the responses obtained from the learners studying through open learning system, it has been found that the distance learners in this field face a number of academic problems that restrict and de-motivate them to study on their own Some of the academic problems are due to the learners themselves whereas some of them are on the part of the system

Lack of Self Learning Skills

Since in the Open Learning System the print material plays the core role in the teaching-learning process, the educational output of the learners depends much on the reading and writing ability of the learners. However the study shows that about 30% student do not have ability to read the instructional material properly Out of the rest, about 42% cannot comprehend or understand the material themselves. It indicates the lack of the culture of self-learning.

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This can be due to their poor educational and socio-economic background. Because, particularly, at school level most of the learners in OLS are from poor socio-economic and educational background. Also, they are not well aware of using the self learning material. This results in their inability to study on their own. Thus, this develops the spirit of isolation in their mind which prevents them to do self study enthusiastically. It also necessitates a study on the learning material so as to ascertain its suitability to the learners and learning environment.

Lack of Learning Environment

As most of the learners (about 70%) at school level in OLS belong to the age group 14-24 years, and practice in our society has been to study in a classroom situation, therefore, most of the learners are mentally accustomed to the same. About 63% students say that they do not have proper study atmosphere at their homes as they used to have during their formal class room studies. Since they get hardly any opportunity to meet and interact with their peers, the mutual inspiration and sharing of their academic problems is always missing. According to 70% students, it is difficult to study alone without interacting with the fellow students. In the lack of such a learning environment they feel isolation which, sometimes, results lower level of self confidence. This also results in fall of motivation levels which is directly related to their satisfaction and reduces learners interest in study and sometimes becomes the cause of dropping out also.

Further, Pathaneni (1996), states that the study for a distance learner is not a prime activity, it is one among many of his family, social and official commitments. Secondly, they have freedom in terms of their pace and convenience, therefore, they don't give proper attention to their studies, thus reducing their motivation. Many of them have to engage themselves in economic activities so as to support their family. This may be a cause of poor attendance at PCPs, Sharma 1996. And it is the PCP through which we generally try to create a learning environment. In this regard it is necessary to create learning environment or peer group out side the PCPs.

Insufficient Face-to-Face Interaction

It is a fact that the presence of human interface in any teaching-learning process is very important. In the OLS it is the Personal Contact Programmes (PCPs) which provides the opportunity to have face-to-face interaction and solve the learning difficulties of the open learners. But surprisingly it has been found that the present method of conducting PCPs at the study centers is not serving its purpose. More than 80% students say that the existing number of PCPs are not sufficient, it should be more. 36% students say that in the beginning they attend the PCPs but later finding them irregular and irrelevant, they dropped-out. In fact, the students' perception and their expectations are quite different in this regard.

These PCPs help students to develop a spirit of belongingness, and loyalty, which increases the desire of learning, promotes motivation, and reduces isolation. But these all depend upon the quality of PCPs and the way they are organized. If they are not performed properly or upto the desired level, the adverse effect may be seen. The solution to most of the academic problems faced by the learner, is supposed to lie in the personal contact programmes. PCP is one of the major supports to the system. The tutor, here has to play a more important role of a counsellor, a guide and a teacher which in practice is far different. The learners look to the tutor to get their problem solved and to understand it from their point of view. Thus, the tutor should be able to see not only the problems, but to the reasons why the problem appeared insoluble. The tutor should not teach each and everything like in regular classroom teaching. He or she should guide students towards the solution and should develop the technique of self learning. By such techniques, the tutor can rebuild the lost confidence and re-orient the students towards their goals. Unless this role is very effectively played, there is every danger of further fall in motivation level and hence drop-out from the system or inability to do self study.

Lack of Proper Feed-back

Majority of students complain that they don't get proper feedback regarding their learning/ shortcomings /weakness, so that they might rectify them. Hardly there is a system for direct communication with learners. More than 90% distance learners expressed their willingness to have direct communication with the system and get their problems solved at the earliest.

For the success of any teaching-learning process, the learners, from time to time, must know the results of their performance. In OLS, this can be done by continuous assessment and evaluation of learner's efforts through his home assignments. The proper feedback gives them positive reinforcement, which in turn results in further motivation. Therefore, the frequency of well prepared assignments should be more and regular Because in OLS, this is one of the ways through which the two way communication between learner and the tutor takes place. It serves both the purposes, diagnostic as well as formative.

Suggestions

- On the basis of the above observations and findings it can be suggested that,
- Reading ability be ensured at the time of admission;
- students should be properly guided about how to do self study;
- suitability and simplicity of the learning material to the learners should be ensured. If need be, it should be revised and modified on the basis of the feedback obtained from the learners, so as to make it more interesting and motivating;
- PCPs should be made effective by making them regular and more interactive by involving the learners in teaching-learning process;
- attendance in certain number of PCPs may be made compulsory so that they can meet and interact their peer students; It will help in reducing isolation and add in motivation;
- there should be compulsory and continuous assessment of the progress of the learners through TMA or CMA, and proper feedback should be given to them;
- students should be guided on how to prepare for the examination and how to express themselves in the examination.

The above mentioned observations, findings and the suggestions may help us to understand the basis of academic problems of the open learners specially at school level and thus to introduce proper remedial measures to improve upon the system. The present study had certain limitations like the small number of learners in the sample as compared to the total enrollment at NOS, localized study where as NOS deals with whole country. There may be some regional problems which may not get reflected the present study. However, it is important to mention here that most of the above findings would be common throughout the country. Therefore on the basis of these, the teaching-learning, support and evaluation system of the OLS can be improved. However, it may be interesting to have a comparative study of the academic problems of the distance learners at school and university level because it is felt that several academic problems of the open learners at higher level may be different from those at the school level.

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Distance Education In Turkey: Past, Present and Future

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Rapid developments in the twentieth century markedly affect the social conditions. Parallel to the changes in social conditions educator gains new dimensions in aiding contemporary issues. As each individual stands up for higher education, new steps should be taken in educational systems.

The progress in human resources through education has positive results in that it accelerates economic growth, balances distribution of income and lowers the ratio of unemployment. Research shows that there is a direct relation between the level of education and the distribution of income and a reverse relation between the level of education and unemployment (Gokadag, 1986). Comprehension of this issue both at the individual and social level leads to cumulation in educational systems. It is for the same reason the nations concentrate on alternatives to their current educational systems. Developments in educational technology and communication technologies have provided solutions to the individuals, educational problems. As a result of these developments a new model, "distance education" has emerged. Distance education offers education at different levels to individuals with different interests and abilities who lead different life styles and have different working conditions (Ustunoglu, 1987). Distance education has been employed n the Turkisht Education System during three prominent periods: 1927-1955, 1956-1981, 1982-1996 These periods are characterized by the following issues; intensive debate on distance education as a concept employment of distance education at secondary and higher education levels, system shut down, foundation of Council for Higher Education (CHE) re-employment of distance education in higher education, and later in secondary education.

Distance Education Between 1927-1955

The first arguments concerning distance education started at beginning of this period. In 1927, in a meeting where national education problems were being discussed, a distance education model "correspondence course" was offered to increase national literacy. The offer, although considerable, could not be realised due to the conditions at that time (Alkan, 1987). One of the most important reasons of this skepticism might have been the impression that it would have been unrealistic to teach reading and writing without a teacher to a population with a 90% illiteracy rate. A similar application was seen in Australia at the time, however, there was a fundamental difference : the parents of the children who were taking correspondence courses for primary education were literate (Hızal, 1983).

Between 1933-1934 a research committee working in Turkey proposed correspondence courses in technical and general knowledge for people who lived in cities where it would be economically unjustifiable to open schools (Alkan, 1987). The proposal like the one in 1927 was not realized. This, again, might have been due to the illiteracy problem.

From 1935 to 1955 distance education was brought to the agenda of public opinion from time to time but no action was taken. Therefore, between 1927-1955 can be regarded as the period of argumentation for distance education as a concept.

Distance Education Between 1956-1981

Distance education was employed in the Turkish education system for the first time at the beginning of this period. The Research Institute of Banking and Trade Law of Ankara University Law School started correspondence courses for bank workers.

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In 1958 Correspondence Course Centre (CCC) was founded within the Ministry of Education (MOE). In 1961 CCC offered correspondence courses such as technical knowledge courses for adults and preparation courses for those who were taking external exams.

Another application of distance education in Turkey during this period is the "School Radio" that has been in practice since 1963. The program is for primary school students and is prepared by Ankara Provincial Radio (Ustunoglu, 1987).

In 1966 CCC was organized as a department and realized efficient applications. The department offered distance education in such technical fields as radio, hotel management, nutrition, typing, technical drawing, and economic co-operatives. In addition, programs were offered to prepare applicants for several exams which included primary school teaching and technical school graduation exams, as well as for preparation for diploma program (Alkan, 1987).

In the mid-fifties, however, distance education which was merely an experimental attempt could not reach most of the population as a result of a series of negative effects.

In the 1970s social pressure increased the demand for higher education. As a result, distance education gained more importance in the higher education level, which in turn triggered important changes in distance education. 1974 witnessed important developments distance education-wise. The first of these developments was the foundation of the Correspondence Course Centre within the body of MOE. The CCC aimed at providing tertiary education for the students who could not enter a university. At the same time with the foundation of CCC an Educational Technology Strategy and Methods Committee was organized. The committee's functions were determined as follows;

- to develop a contemporary distance education system.
- to make use of instructional multimedia models.
- to create new resources and technologies for distance education
- to realize scientific and experimental research to obtain radical solutions to the problems (Alkan, 1987)

The second development in this era is the foundation of another distance education institution: The Pilot Teacher Training College.

The main initiative in the foundation of these institutions was to create a contemporary distance education institution in Turkey. However, as these enterprises were confronted with negative attitude both by academicians and public opinion, the applications were limited only to teacher training. Between the years 1974-1975, 45,000 of those students who completed their secondary education started teacher training via distance education. During the first year of this education only print material was used as a teaching source.

Towards the end of 1975, inefficiency of using only print material was observed and The Informal Higher Education Institution (IHES) was founded. Thus, the students who had started training in 1974 joined this Institution and in 1975 the number of students in IHES totalled 85,122. IHES realized correspondence courses, open higher education, external exams and formal higher education programs. Print materials, television, radio, cassettes and records were used in these programs, also limited academic counselling was provided.

In a study conducted by the IHES Planing Programming and Evaluating Department during the educational year 1975-1976, only 12% of students were found to have been following the radio and television broadcasts and using the cassettes (Alkan, 1987). In the same year, it was emphasized that the programs were not well balanced and IHES did not achieve efficient ties with supporting organizations (Okan, 1976). A 1978 study also showed that IHES had many problems related with administration, faculty, programs, media and the methods used (Ercan, 1978). All these negative facts brought IHES to an end and the students were transferred to other formal education institutions. However, the effort for the use of modern technology in education continued. In 1981 a nation-wide literacy campaign started. Television school programs aided literacy a great deal. Another development in distance education in Turkky occurred in 1981. In that year, the Higher Education Act transferred the responsibilities of distance education for higher education to universities.

Anadolu University

In 1982, Anadolu University began distance higher education in the preserve of its Open Educational Faculty (OEF). OEF started programs in Business Administration and Economics with a student enrolment of 29,479 for the 1982-1983 academic year. Teaching resources in these programs were print material, broadcasting and academic counselling. Printed materials were mainly developed by the faculty members, but co-authors from other universities assisted in writing as well. In the 1982-1983 academic year 20 minute television programs were broadcasted weekly for each course in the Business Administration and Economics programs. One year later, 30 minute radio programs started, with English being the first course offered.

In the second term of the 1982-1983 academic year academic counselling started in 16 provinces within the bodies of universities present in those provinces. 66% of OEF students were enrolled in academic counselling with such an organization. 52 professors, 80 instructors, 72 research assistants and 5 specialists took part in academic counselling (Serter, 1987).

OEF has 2,34,842 active and 199,695 passive students which is a total of 4,34,537 students in the 1995-1996 academic year. It offers education in 18 different programs. These programs are as follows:

- Sales Management
- Office Management
- Banking and Insurance
- Business Management
- Public Relations
- Nursing
- Health Institution Management
- Tourism and Hotel Management
- Accounting
- Home Economies
- International Trade
- Social Sciences
- Public Administration
- Midwife Training
- Health Technician Training

Two other faculties within the body of Anadolu University, Business Administration and Economics, also give distance education. The Faculty of Economics offers distance education programs in Labour Economics and Industrial Relations, Public Administration and Public Finance. The Faculty of Business Administration offers programs in Accounting and Finance, Marketing and Management and Organization. As of February, 1996, 157,332 students were enrolled in the Faculty of Economics, and 206,225 students were enrolled in the Faculty of Business Administration.

Currently four main teaching resources are utilized: radio-television programs, print material, academic counselling and computer assisted instruction which started in 1995. The production of print materials is the responsibility of OEF members. However, often there is help from the academic members of other. Turkish Uiversities as authors. In such case OEF members usually work as editors. Print materials are developed and rewritten on a continual basis. The number of television program has also increased. In 1986 the number of weekly broadcasted programs is 1650 for a year. Radio programs, which originally were available for only English courses have been now produced in German and French. The Academic Counselling system has been enlarged to 55 provinces. Also the number of courses covered in academic counselling has increased (17 in 1996).

In 1995, OEF started the utilization of computer technology for instruction. The application was called the Computer Assisted Academic Counselling System (CAACS). CAI department of Anadolu University prepared the software for the courses. English, Mathematics, Statistics, Financial Management, Economics and Accounting. The software is written in a tutorial mode and consists of four main parts, practice, revision, sample problems and test. As of 1996, CAACS is provided in 13 provinces in centers called CAACS labs.

Open High School

The rate of schooling in secondary education which was only 3.7% in the 1949-1951 academic year increased to 37.7% in 1990-91. However in the same year, 80% of the population could not receive formal education for various reasons. (Kaya 1995). Reasons include being employed full-time, being handicapped, lack of local schools, financial hardships, being imprisoned and so on. There had been an increasing demand for informal education at the time and in 1991 the number of applicants reached almost 1,00,000 this being recorded only for large cities (Kaya, 1995). General increase in demand for informal education accompanied by recent developments in education and communication technology led to the foundation of Open High School (OHS).

1992-1993 Academic Year

OHS was founded on October 5, 1992, and began teaching in the same year with a large body of more than 44,000 students. This new course-based credit system offered courses including science, social studies, language, arts, mathematics, foreign languages and culture. Along with radio and TV programs, print materials were also used as a means of conveying information to students. In the first year, within a time period of 20-25 days, 2 text books were developed under the supervision of several committees, members of which were chosen among high school teachers. However, the content of these books were then viewed as inadequat most likely due to the fact that the teachers lacked experience in distance education materials preparation. Time constraints and technical difficulties could also be counted as major problems in this process. (Ulug 1994).

In addition to print materials, OHS introduced both radio and TV programs in its first academic year. These programs included academic counselling, news, information, and announcements. Each program was broadcasted weekly and lasted 30 minutes. Due to lack of trained personnel to determine appropriate themes for a radio program, the design and production of these programs remained too limited. However, they were still viewed by the students with great interest since they more or less bridged the gaps in communication regarding high school.

As an important means of mass communication, TV was also used in the first year of OHS. Programs were designed and produced with considerable attention to the nature of the courses to be taught. In the 1992-1993 academic year, 452 programs were produced, each lasting about 20 minutes. Each course included either 14 or 30 programs. The number of programs for each course was determined mostly by considering either administrative or technical criteria rather than educational ones. Again this may be related to lack of trained personnel. It should also be noted that this type of structuring was too new for the Turkish education system (Ulug, 1995).

1995-1996 Academic Year

In its first year the curriculum of OHS did not look any different from an average high school. However, in the 1995-96 academic year, its status was transformed into that of a multi-purpose school. It was then that OHS began to provide professional training for students at different stages of schooling in secondary schools, as well as for Turks in Germany. This course-based credit system offering programs in science, social studies, language, arts, mathematics, foreign languages and culture is still in application, and there are about 1,30,000 students currently registered in these programs. OHS initiated a new project to solve the problems regarding course selection and credit completion. Those students who went to secondary school at the time when a course-based credit system was still employed in these institutions can now via. OHS programs, take the courses they could not take back then.

Following the abolition of external exams, technical training programs were employed. This has come to mean that from then on professional training has been made possible via distance education for those who desire technical skills in any area from industry, through home economics, to business accounting and theology. Distance education has been employed for theory-based courses listed in the syllabus and for courses of general information. Applied courses and theory-based courses not listed in the syllabus are given in schools through face to face education. Applied courses may also be taken in businesses in terms with the articles in the Bulletin of Open Education Professional and Technical

Schools, and also with Ministry's (article 3308 of Apprenticeship and Professional training, (MEB, 1995).

The number of students taking general high school education, completing their credits, and taking professional training adds up to a total of 130,00. In addition to 22 currently used textbooks that were developed in the first academic year of OHS, 7 more were developed by the faculty members of Anadolu University. 19 others are put in use at various institutions even though they were not designed based on principles of distance education. Textbooks for Turkish and Science were replaced by those developed by faculty members.

Today, students of OHS are provided with a total of 43 textbooks. Additional materials and bulletins are also available Class materials are prepared for eight classes and they include summaries and reviews of text books. In May 1996, Bulletin 14 was published. It must be noted that these bulletins are sufficient in quantity, but they are yet to be improved in terms of clarity and guidance.

TV programs each of which lasts for about 20-25 minutes, are still broadcasted on a weekly basis. The original recordings for most of these programs were prescribed and they are still used with no further changes necessary. However, changes in the number of courses offered have triggered changes in the number of programs. OHS also provides services for academic counselling which are carried out via radio, TV, bulletins and reach-out offices. As of May 1996, 24-hour phone services have also been made available. Another service offered by OHS is to provide opportunities for practice mainly in science, mathematics and English. Possibilities for face to face education for those who desire so are also being sought.

What Will Come Next?

Turkey, like any another country in the 20th century, is in a constantly changing atmosphere of values and conditions. The education system is continually undergoing restoration, however, it seems likely that no solution other than distance education will serve the needs of those who have a desire to learn but not the required conditions for such a fulfilment The new steps that began in giving distance education at the primary school level is an indication of this. Any new technologies will undoubtedly take their places in the distance education system of Turkey. However it is only after people become more conscious about technology and education that they will realize the value of distance education.

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The statistics for 1997

The number of students enrolled in OEF: can't be given since the registration continues
The number of students enrolled in OHS: 2,40,000
The number of students graduated from OEF: 1,53,215
The number of students graduated from OHS: 21,000

Distance Education and Educational TV Producing Process At Anadolu University,Turkey

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Introduction

Distance education is a contemporary education system developed with the help of educational technology, and distance teaching methods in a setting that learner and teacher are not face to face In the foundation of the system lies the facilitating technologies that provide a person to learn by himself. These are printed materials, TV, radio, video, computer and so on. The most important educational medium is the printed material at the Open Education Faculty of Anadolu University. 382 course books for all programs have been published and produced so far. 399 editors ad 1050 authors have had the responsibility of preparing these books. Academic counselling, is the other dimensions of The Open Education Faculty which are held in 54 centres with 724 academicians ad instructors. Computer-assisted education has been started in the laboratories in different cities since 1993-1994. Students' learning is strengthened by watching the program containing exercises, sample problems and trial tests.

The Open Education Faculty has 65 offices to service its students all over Turkey and 2 offices abroad have been put into service. Registration, re-registration communication and delivery of books are realized via these offices. Besides course books, TV and radio programs are used effectively at the Open Education Faculty.

Some characteristics of TV as an education channel in distance education are as follows:

- Although TV production and broadcasting processes are expensive in terms of investment, it has a decreasing financial burden when the masses are aimed.
- Production process requires fast and planned work. It means a better workforce and technology, a more demanding budget.
- Technological innovations of today make TV an effective medium of communication. This is a very important development for a distance education student.
- To show an operation, an experiment or an event while telling at the sametime is more effective for a student rather than just narrating.
- One of the basic problems of education in Trukey is that everybody is not able to get education. TV can solve this problem.
- TV is a medium that has opportunities of presenting different faces to students unlike the conventional education's ordinary environment.
- While transferring information also increases the target's interest.

The superiorities of TV presented here as one of the main channels of distance education required it to be used together with the other education channels in the application of Open Education Faculty of Anadolu University just like in the other examples all over the world.

The use of distance education was discussed in 1960s in Turkey. After some applications as Yay-Kur and correspondence education, it was decided by the foundation of Eskisehir Anadolu University in 1982 to meet the intensive demands of education and to make contributions equality ensure in education in terms of today's distance education meaning. Open Education Faculty that has more than 600,000 students today and started with only two programs, namely Business Administration and Economics in 1982 has reached the dimension of a university itself and got two more facultues in 1993 with a new structure. Based on the new structure, the Faculties of Business Administration and Economics are responsible from a four-year university degree programs, and Open Education Faculty is responsible for pre-licence programs, completion program for university degree and all kinds of certificate programs. And also, the Open Education Faculty is responsible to give services to other distance education faculties.

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TV programs that are crucial in reaching the students of Open Education Faculty are produced in Radio-Television Production Center (ETV), which is the main department of the faculty. The establishment of Radio-Television Production Center has all kinds of modern equipments since 1970's as a part of Eskisehir Academy of Economics and Commercial Sciences with the name "The Institution of Education via TV". In 1977, The School of Cinema and Television was put into service in order to meet the workforce of the Institute. The Open Education Faculty reaches it students through radio-TV programs, academic counselling, computer assisted education and video cassettes together with printed materials, and increase its education fields every year.

Here are projects produced in Radio-Television Production Center,

- A four-year Accounting-Financing, Marketing and Management-Organization university degree programs under the Business Administration Faculty,
- A four-year Economics, Finance, Public Organization, Industrial Relationships, and Work Economy university degree programs under the Economics Faculty,
- A two-year Nursing, Midwifery, Health Technicianship, Local Government Administration, Foreign Trade, Business Administration, Public Relations, Sales Management, Accounting, Tourism and Hotel Management, Banking and Insurance, Office Management, Health Institution Administration, Home Economics, Social Sciences, Agriculture, Veterinary-Health, Education are pre-licence programs.
- English, German, French, Art, Physical Education, Chemistry, Physics, Biology, Mathematics, Turkish Language and Literature, Geography and Basic Education university degree completion programs.
- Tourism education certificate programs.
- TV school and summer school programs for secondary and high school students
- University preparatory programs having Turkish and Mathematics lessons and many in-service education programs for governmental institutions.

2399 TV programs have been produced for these projects so far. Besides TV, radio is also used at the Open Education Faculty. The number of radio programs produced is 441. Since Open Education Faculty does not have the possibility of broadcasting, programs are broadcast on TV4 and TV2 through Turkey Radio and Television Co-operation (TRT) daily. The broadcasting of radio programs is provided by the same association. Programs are broadcast every day for 25 weeks. The average broadcasting time on TV4 is 4.5 hours, and on TV2 is 8.5 hours. Weekly broadcasting of radio programs is 2 hours.

Production Process of Educational TV Programs

While some of the projects that are not included in Open Education Faculty's main fields may be suggested by the Ministry of Education; the faculty itself may suggest, as well. Based on the accepted projects, educational planning group defines the curriculum and adapts the curriculum with Inter-Universities Association. When the curriculum presented to Higher Education Council is approved, co-operation with the Ministries in question is also obtained. After writing of the books under the study of educational planning is completed, course texts to be adapted to TV are determined by the same group. Another step following this is the organization of the director who will produce the programs. These criteria are taken into consideration so that the author of the text, editor and director of the program can come to a good conclusion on the text topics to be adapted to TV. TV education programs should be produced to emphasise the important points in the text, to viewpoint on the topic, to give good examples and to strengthen the information. What can be done with available technical possibilities should be determined. After this phase, the expert prepares a script and a program outline is developed. While adapting a script, one of the program types or a mixture is used. These are real images, narration, conversation, interview, dramatization and graphic animation. There are three production forms.

1. Direct teaching program,
2. Information-transferring program, and
3. Reinforcing program

During the production of educational program, the archive of the institution is used. Radio-TV Production Center programs since the foundation of the institution are stored in the archive. The director determines older visual materials from the archive. At the same time, if necessary, director prepares some elements like a sound effect or music from the sound archive unit. After planning shooting time and equipment, the director reserved the shooting team, equipment, and studio from the Production Planning and Co-ordination Department. Based on the shooting plan determined during the shot step, production meetings are held, studio shootings or out door shootings are realized and sound recordings are made. During the editing phase, the director, when necessary, works with the educational expert. In all circumstances, before the legal checking, the program is checked by the director and expert, and if there is something wrong scientifically, it is corrected immediately. At the last phase, before the broadcasting the program is checked by TRT inspectors.

The Open Education Faculty's educational TV Programs are prepared by nearly 200 well educated experts in their fields who are working in Radio-TV Production Center. Production-direction department's staff have been trained in Communication Sciences Faculty's Cinema-Television and Press-Publishing Department. Their level of education goes up from university degree to Ph. D. for example, the levels of 70 persons of the Production-Direction department are

- Ph.D. in communication 20%
- MA in communication 21%
- University degree in communication 44%
- From other faculties 14% (Business, Economics, Education so on)
- In other words, approximately 85% of the staff are well educated in Communication Science. In terms of technical team, the rate of staff who have vocational education is 100%, 50% of whom have university degree and 50% of whom have technical high school degree.

The average experience in the institution for the personnel is about 10 year. All the technology available for Open Education Faculty Radio-TV Production Center of Anadolu University has the international standards in terms of broadcast quality. The aim has always been to prepare programs on international broadcast quality. Another necessity is that programs are broadcasted by TRT. TRT, according to CCIR and EBU contracts, requires new broadcast quality. The other necessity requires all kinds of graphics, pictures, scripts, texts and tables to be easily watchable in technical respect. This is directly related to the further phase of the broadcast quality-High Definition (HD) or Advanced Definition (AD). In terms of technique, another advantage of international broadcast quality is that it has longer life for archiving, keeping and duplicating. Also, it provides a multi-generation opportunity during the editing of programs. It is necessary to point out that although this kind of a technology is very expensive, it has fewer problems and lasts longer than the others. For example, The Open University in United Kingdom started using betacam system, that is broadcast quality system.

After determining the necessities for the Open Education Faculty, it is better to be acquainted with technical equipment/situation of the institution. In the Open Education Faculty there are six TV and sound recording studios. Three of these have technical capacity to produce in international broadcast quality. The other three studios are used for different purposes and when necessary they are included in producing program, as well.

Conclusion

Open Education Faculty has to serve education, its more than 600,000 students. The number of students is the most important obstacle in increasing the quality of this service. The faculty uses some mass media like radio and TV to pass over this obstacle. However to reach the students faster, new technical equipments need to be added. For example, 14 of the 65 Open Education Faculty Student Information Bureaus in Turkey, give a service via computer assisted education and it is planned to increase the number of these centers in due course.

The other aim of Open Education Faculty is to offer master degree education. For this, a computer connected to a network system or video technology is necessary for the students. Although law does not allow the faculty introduction of master degree education program, the faculty has already included this project in its future aims.

One of the most important problems of distance education is the difficulty of having face to face education with many students. A kind of technology that will help to pass over this difficulty is used in many countries especially in the field of distance education. The project that will be applied in a certain area by Open Education Faculty is called "Video-Conference". Students in a class, facing a large screen may follow the lesson lectured by an instructor, ask question when necessary and they will communicate as if in a real class. Since video conference application may benefit from visual tools like film and graphic, the technology of TV needs to be adopted to the new technology.

The Open Education Faculty broadcasts its own program via TRT. But broadcasting days and hours are not fit for the working students. This leads to loss of time and effort. Also there are some technical differences between TRT and ETV. For these reasons, Open Education Faculty should improve its technical equipment and work force, and should broadcast its own programs itself as soon as possible. TV broadcast unit will tale into consideration the educational channel by university. It is common opinion that investment in education is the best thing to be done. Based on this understanding, Open Education Faculty is an institution that devotes itself to offer quality education to the masses.

Continuing Education of Staff in Distance Education: A Case study

Dr. Ugur Demiray[1]

Aim

The main aim of this research was to study the demands or expectations of the staff who are working as an officer, author/editor and academic counsellor since beginning years of the Open Education Faculty (OEF) system. This study has been developed to suggest method to increase knowledge of more than 3.000 of the Open Education Faculty (OEF). This in-service education package should be applied to the new staff who will work in distance education institutions at Anadolu University Open Education Faculty (OEF) or at any other distance education institutions.

Methodology

The survey for assessment of need for continuing education was carried out on three groups of personnel in the OEF. These are :

- Officers,
- Authors and editors, and
- Academic Counselors.

Four-part questionnaires were developed for each group of respondents. The four parts comprised items on the

- proposed training package,
- the concept of distance education and related issues including its application, open education faculty in Turkey, and
- issues related to print and non-print instructional material for distance education.

Actual number of questions on each of the four components varied from one respondent group to another. Each item was expected to be responded on a relative importance scale -- very important, important etc. The responses were counted and converted in terms of percentage; both very important and 'important' were counted together for the purpose of assessing the importance of the items on continuing education of the OEF.

Findings and Evaluation

Opinions of the Office Personnel

- Aim of Anadolu University The Open Education Faculty (AU/OEF) In-Service Staff Training Package is seen important by 96%.
- Benefits of AU/OEF In-Service Staff Training Package is seen important by 98%.
- 85% considered important the inclusion of self in the AU/OEF In-Service Staff Training Package.
- Using different educational media and tool in the AU/OEF In-Service Staff Training Package is seen important by 95%.
- Content and the subjects in the AU/OEF In-Service Staff Training Package is seen important by 99%.
- Evaluation and education time of the AU/OEF In-Service Staff Training Package is seen important by 94%.

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- Other educational activities during AU/OEF In-Service Staff Training Package is seen important by 94%.
- On the second part of the questionnaire, to learn, through the Staff Training Package
- DE concept and other definitions of DE is seen important by 94%
- difference of DE and conventional education is seen important by 92%
- components of DE is seen important by 92%
- organizational and communicational structure of DE is seen important by 94%
- the role and importance of the staff in DE systems is seen important by 99%
- the demands of the students in DE systems is seen important by 96%
- the role and importance of the staff in DE systems is seen important by 99% from the personnel perspective.
- other DE applications and their running of DE systems in the world is seen important by 96%

The third part of the questionnaire, deals with opinions about the OEF. To learn through the Staff Training package.

- brief history of OEF and the place of OEF in Turkish DE history is seen important by 90%.
- OEFs educational component is seen important by 94%.
- organizational and communicational structure of OEF is seen important by 97%.
- registration processes of the OEF students is seen important by 93%.
- rights of the OEF students is seen important by 91%.
- dimensions of the personnel structure of OEF is seen important by 94%.
- the role and importance of personnel in OEF from administration point of view is seen important by 93%.
- function of personnel in OEF from administration point of view is seen important by 96%.
- place of personnel in OEF from personal point of view is seen important by 97%.
- function of personnel being in OEF from students point of view is seen important by 98%.
- role and importance of personnel in OEF from students' point of view is seen important by 96%.

These results show that the content of the Package is right and beneficial for the OEF staff.

Opinions of the authors/editors

- Aim of Anadolu University The Open Education Faculty (AU/OEF) In-Service Staff Training Package is seen important by 97%.
- Benefits of the Package is seen important by 88%.
- Including him/herself in the Training Package is seen important by 71%.
- Using different educational media and tool in the Package is seen important by 100%.
- Content and the subjects in the Package is seen important by 92%.
- Evaluation and education time of the Package is seen important by 77%.
- Other educational activities during the Package is seen important by 92%.
- Guidance or motivation for the Package is seen important by 100%.

In the second part of the questionnaire, participants indicated their opinions about DE concept. To learn, through the package.

- DE concept and other definitions of DE is seen important by 97%.
- difference of DE and conventional education is seen important by 97%.
- components of DE is seen important by 97%.

- organizational and communicational structure of DE systems is seen important by 93%.
- role and function of the authors/editors being academic staff in DE systems is seen important by 96%.
- main demands of the students in DE systems is seen important by 93%.
- role and importance of the author/editors as academic staff from point of view of students is seen important by 89%.
- other DE applications and the running of DE systems in the world is seen important by 92%.

In the third part of the questionnaire, participants expressed their opinions about application dimensions of the OEF. Learning through the package

- brief history of OEF and the place of OEF in Turkish DE history is seen important by 82%
- educational components of OEF is seen important by 97%.
- organizational and communicational structure of OEF is seen important by 97%
- registration processes of the OEF students is seen important by 86%.
- students' rights in the OEF is seen important by 57%.
- role and importance of authors/editors from administration point of view is seen important by 81%.
- the function of in OEF authors/editors from administration point of view is seen important by 85%.
- the place of author/editors in OEF from personal point of view is seen important by 89%.
- function of author/editors in OEF from students' point of view is seen important by 78%.
- role and importance of author/editors in OEF from students point of view is seen important by 77%.

In the third part of the questionnaire, academic staff expressed their opinions on printed materials in DE systems. Knowing through the package

- importance of the printed materials in DE systems is seen important by 92%.
- main rules of the readibility and main rules of the writing of the printed material is seen important by 96%.
- main rules of the importance of the self teaching questions in the text of printed materials is seen important by 98%.
- other printed materials prepared in other DE systems is seen important by 90%.
- function of editors is seen important by 93%.

Opinions of the Academic Counsellors

- Aim of Anadolu University The Open Education Faculty (AU/OEF) In-Service Staff Training Package in seen important by 100%.
- Benefits of the Package in seen important by 96%.
- Including him/herself to the Package is seen important by 78%.
- Offering by OEF of the Package in seen important by 100%.
- Using different educational media and tool in the Package in seen important by 84%.
- Content and the subjects in the Package sade seen important by 100%.
- Evaluation and education time of the Package is seen important by 89%.
- Other educational activities during the Package is seen important by 96%.
- Guiding or motivation to study the Package ins seen important by 93%.

In the second part of the questionnaire, participants expressed their opinions about DE concept. Knowledge through the Package

- of DE concept and other definitions of DE is seen important by 93%.
- of difference of DE and conventional education is seen important by 94%.
- of components of DE is seen important by 93%.
- of organizational and communicational structure of DE is seen important by 93%.
- of role and function of the academic counsellors in DE is seen important by 100%.
- of main demands of the students in DE systems is seen important by100%.
- of the role and importance of the academic counsellors from students' point of view is DE systems in seen important by 96%.
- of other DE applications is seen important by89%.

In the third part of the questionnaire, participants expressed their opinions on application dimensions of the OEF, Learning through the package,

- brief history of OEF and the place of OEF in Turkish DE history is seen important by 85%.
- educational components of OEFs is seen important by 96%.
- organizational and communicational structure of OEF is seen important by 93%.
- registration processes of the OEF students is seen important by 79%.
- registration processes of the OEF students is seen important by 68%.
- rights of the OEF students is seen important by 96%.
- the role and importance of academic counsellor in OEF from administration point of view is seen important by 99%.
- the function of OEF academic counsellor from administration point of view is seen important by 99%.
- the place of author/editors in OEF from administration point of view seeing him/herself,is seen important by 100%.
- the function of academic counsellor from students point of view is seen important 96%.
- the role and importance of author/editors in OEF from students point of view, is seen important by 100%.

In the last part of the questionnaire, participants expressed their opinions on importance of academic counselling unit in DE systems, Knowing though the Package,

- when and which kind of support DE students need is seen important by 93%.
- the role of academic counselling by students is seen important by 96%.
- aim of academic counselling unit is seen important by 97%.
- organizational structure of academic counselling units in DE is seen important by 96%.
- function of the academic counsellor in the DE system is seen important by 96%.
- organizational type and structure of academic counselling unit in OEF is seen important by 85%.
- problems of organizationl and running of academic counselling units is seen important by 99%.

Conclusion

According to the response to the questionnaire, the OEF staff needs In-Service Staff Training immediately on their subject. Of course they are trying to do their best. But they do not have enough information or knowledge about DE system and OEF application in Turkey.

Today, Turkey has her own distance educators or educational technologist who can help in developing the system. In very near future, many governmental and private institution will start offering distance education programs. It must not forget that the most important point of the development is to fulfil society's demand, following the developments and inventions in science and technology.

Problems of Polytechnic and Engineering Women Students

G. Vijayalakshmi[1]
T. Rajyalakshmi[2]

Introduction

Success of industrialization depends to a large extent on an adequate supply of skilled personnel. The use of human resources of industrialization demands an education in science and its allied fields and training in technical skills. Both men and women are required to be trained for the ever increasing industrial expansion and development. As a consequence polytechnics and engineering colleges were established to train large number of engineers and technicians to meet these current demands.

Entry of women in these technical fields is of crucial importance to the ever increasing demand in the field and to the economic development at national and international level. The present technical education must respond not only to the scientific and technological development but also to the subsequent social and economic changes in the society. But the entry of large proportion of women in these institutions is still a dream.

Though women students are provided equal educational opportunity to different branches of education at different levels, women have very little preference to these because of social constraints They should be encouraged to select their courses in accordance with their intellectual capacities, interests, attitudes, aspirations etc. on one side and their job opportunities on the other side. Otherwise there won't be any synchronisation between the selection of the course and future career. In view of this, women students should be encouraged to select technical courses on par with other general courses without any inhibition.

Brief Review of Related Literature

Though quite a lot of related literature was reviewed by the investigators for deeper understanding of the problem, a few studies are mentioned here for better cognition of the related work.

Marshi (1942) used an experimental mimeographed form of the problem checklist on 30 college women at Stephen's college during the years 1938-40. The category of personality problems received the largest proportion followed by academic and social problems. Riddle (1962) carried out a nation wide study on the problems of students with a questionnaire. The results showed that they need help on problems connected with the college. Suma Chitnis (1975) found that students of professional courses were more independent and oriented to change than the non-professionals. Cassidy (1976) studied the differences between college women choosing traditional career. A comparison between traditional and non-traditional women revealed non-traditional women were significantly more economically oriented than the traditionals. Hansen (1977) found that the parents' awareness of their own socialised attitudes and behaviours influence the occupational choice of their children. Satyavathi (1993) found that there was no effect of place, course, caste, income, educational level of parents and siblings and the occupation of their father on the problems of women students.

Need for the Study

Traditionally, the field of science and technology was considered to be the man's. Even today either at college level or at occupational level this is mostly dominated by the men folk. Still women are

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not entering into this field of specialization. Even if they enter, their avenues for employment are quite discouraging. Though the number of women students opting for technical education is slowly increasing year after year, yet the number of institutions remains the same. With the limited and outdated specializations the quality of technical education in polytechnics and engineering colleges is found to be deplorably poor and unsuitable for the present employment requirements in industries and workshops. Educators, administrators, planners, teachers and parents should show their concern on this problem. There is also a need to analyse the problems of women students entering into these courses so that the causes for better employment opportunities and the need for increasing the number of women in this field of education can be understood. The present study was aimed at studying the nature of problems experienced by the women students in technical areas since it is a new field comparatively for them to enter.

The objective of the study is to investigate into the problems faced by women students of polytechnic and engineering courses. The study is also aiming at seeing whether these problems vary depending upon other factors like place, course of study, year of study, locality, family factors like educational level of parents, size of the family and caste.

Statement of the Problem

The present study entitled "An Investigation into the problems of technical women students" is carried out to identify the various types of problems faced by them.

Scope and Limitations of the Study

This study is designed only to include the students studying in polytechnic and engineering colleges located at Tirupati and Vidyanagar and to study the impact of some variables namely place, course, year, locality, education of parents, size of family and caste.

The present study has the following limitations too:

1. The women students studying at two places, viz., Tirupati andVidyanagar were only included.
2. This study is restricted only to the students of two courses namely polytechnic and engineering.
3. This study is limited to a few independent variables in relation to their personal and familial factors.

Hypotheses Formulated

The following null hypotheses were formulated for testing the significance of the differences in relation to the variables considered for the study.

i) There is no significant difference between the women students of polytechnic and engineering courses with regard to their problems.
ii) There is no significant difference between the women students studying at Vidyanagar and Tirupati with regard to their problems.
iii) There is no significant difference between the problems of the women students belonging to different years of their respective courses.
iv) There is no significant difference between the women students hailing from rural and urban localities in their problems.
v) There exists no significant difference between the children of highly and less educated fathers in their problems.
vi) There exists no significant difference between the daughters of high and low education of their mothers with regard to their problems.
vii) There exists no significant difference between the women students of large and small families regarding their problems.
viii) There exists no significant difference between the women students belonging to forward and backward castes in their problems.

Sample Selected for the Study

The sample for the investigation consisted of 120 women students in total by selecting 60 from polytechnic and 60 from engineering courses located in Tirupati and Vidyanagar. Only the students of first, second, and third year of both the courses present in their institutions on the day of administration of the tool were considered for the study. These 60 students from each course were selected by adopting a stratified random sampling procedure from the lists available in colleges.

Method of Investigation

Survey method of collecting the data for this investigation was found to be more appropriate. A problem checklist consisting of 140 items related to five areas namely administrative, teachers, academic, personal and family, was used to collect the data regarding the problems of the students.

Preparation of problem check list

Proper care was taken in preparing the problem checklist. The terms used were defined clearly, the descriptive objectives and adverbs were used carefully. The items were included to cover all the areas considered for the study. The review of the related literature and previous studies of similar nature supplemented the items included in the instrument. The pool of items thus collected finally was refined and the final form of instrument was prepared. The items were randomised to avoid space error. Necessary and required instructions for filling up the problem check list were given in the beginning of the tool. The problems were from 5 areas namely academic, administrative, teachers, personal and family. Thus 28 items were selected from each category pooling to a total of 140 items.

Findings of the study

On the basis of the statistical treatment of the data, the following findings can be drawn out.

1. There was no significant difference between the women students studying in polytechnic and engineering courses regarding their problem.
2. There was no significant difference between the women students studying in Vidyanagar and Tirupati with regard to their problems.
3. There was no significant difference between the women students of these two courses of first and second year, second and third year and first and third year.
4. There was no significant difference between the women students belonging to rural and urban areas.
5. There was no significant difference between the problems faced by the students whose fathers' education was less or high.
6. There was no significant difference between the women students of large and small families.
7. There was a singnificant difference between the problems faced by the daughters of highly educated and less educated mothers.
8. There was a singificant difference between the problems of women students belonging to forward and backward castes.

When the mean values are observed, the daughters of highly educated mothers have least problems followed by backward caste women students whereas the women students of forward caste have the most problems among all the sub-groups followed by the daughters of mothers having less education. That may be due to the help and facilities they get. The polytechnic students were also having almost the same number of problems as the children of less educated mothers. Among all the problems studied, the highly affecting problems were: (1) delay in announcing the results followed by (2) indiscipline in the institution, whereas least affecting problems were : (1) improper time table followed by (2) lack of play

material. When the problem areas were considered, students were mostly affected by administrative followed by academic problems. Third area was family problems followed by fourth category problems related to teachers. Among all the five categories, personal problems affected least.

Table 1 Variable wise sample size, mean, standard deviation and t-values

S.No	Variable	Description	Sample size	Mean	Standard deviation	t-value
1.	Course	Polytechnic	60	114.84	48.46	1.0774*
		Engineering	60	105.50	46.48	
2.	Place	Vidyanagar	60	109.17	48.16	0.8907*
		Tirupati	60	101.17	50.21	
3.	Year	First Year	45	102.00	43.10	1.0847*
		Second Year	41	112.50	46.36	0.0886*
		Third Year	34	106.00	40.98	0.6442*
4.	Locality	Rural	57	104.64	50.60	0.0963*
		Urban	63	105.50	46.80	
5.	Father's education	High	78	109.79	41.60	1.1149*
		Low	42	100.37	45.46	
6.	Family size	Big	37	108.43	44.96	0.6238*
		Small	83	113.84	41.34	
7.	Mother's education	High	62	95.58	39.48	2.7148**
		Low	58	114.92	38.54	
8.	Caste	Forward	61	121.34	45.40	2.6133**
		Backward	59	97.99	52.12	

Educational Implications

Since there is relationship between the problems of technical students and the courses women students select, it is essential to know the problems of women students in technical courses. These problems may vary depending on their age, course of study, year, place and other factors like educational and occupational level of their family members. Unless these are identified and eliminated, it is not possible to achieve better outcomes in different fields of education. So it is needless to say that it is an important aspect to be studied for effective planning of the education system.

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TQM in Technical Education

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Introduction

The thrust on quality education in institutions of higher learning, particularly the engineering colleges, is rapidly gaining momentum. The society especially parents, employers and people's representatives are unanimous about the need for quality education. Numerous reasons are behind this fervent yearning for high quality education despite heavy odds.

The awareness that only those with excellent educational background have edge in getting jobs and the cut-throat competition in the employment market, specifically against the backdrop of opened up economy and globalisation, have resulted in the people laying emphasis on quality education. Further, the expectations of the government and large organisations, who spend huge sums of money in educational and R & D institutions, colleges and universities for a high return on educational investment, is another big motivation behind seeking quality in education. The universal notion that the stature of a nation is dictated by the overall efficiency of operations in various fields is putting emphasis on quality education. The hi-tech efficiency of Japan is a case worth noting.

Though the need for high quality education is universally felt, there are varied opinions on what constitutes quality. Further, there is a lack of proper objective assessment about the composition of quality in technical education and the means to improve it.

Quality in Technical Education

Definition of quality in technical education is subjective rather than objective, which is experienced and felt more than defined or quantitatively assessed. Further, quality is a relative term, with one technical institution being regarded as better than another. Inspite of all these subjectivity about quality in technical education, some quality parameters like examination results, students employment after graduation, external evaluation for college performance are generally prescribed and educational systems and institutions are rated as per these parameters. Though there may be different grades or degrees in quality, broadly it means that quality demarcates mediocre from excellent and non-performance from performance.

Ingredients

The performance of students in the examination is a prime indicator of quality, subject to the boundary condition that there is no malpractice in the examination and the evaluation is done objectively. But unlike in general educational institutions, technical institutions being highly profession oriented, other quality ingredients are equally important as examination results. Students are but one of the components of an educational system. For total quality the other components of educational system also need to be evaluated. In today's competitive world Total Quality Management (TQM) are considered as necessary for survival of any enterprise. Various norms and models have been involved to evaluate quality practices, systems and improvements of any business organisation. Extending the concepts to educational institutions, a typical framework for evaluation of total quality may consist of performance against each of the following measures.

1. Leadership of Top Authorities

This parameter refers to the extent to which the top authorities and senior members are able to guide and provide leadership to the academic fraternity.

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2. Management of Processes

Quality of various infrastructures like class rooms, laboratories, libraries, teaching aids, amenities etc. and their maintenance, quality of course content, teaching methodologies, effectiveness of teaching, examination system for evaluation of students and other related processes are prime indicators of total quality of an educational institution.

3. Human Resource Development and Management

Morale, motivation and academic atmosphere in an institution are greatly influenced by policies, plans and HRM practices being followed in that institution. Thus effectiveness of such policies, plans and practices in building academic atmosphere and in developing its human resources to keep pace with technological developments may be considered as important indicators of quality.

4. Strategic Quality Planning

This refers to the institution's mission and goals to be achieved in future in specific time frames for improving quality and what strategic plans and policies that have been formulated for the same.

5. Information System

A good information system and tools for analysis are prerequisites for applying the principles of scientific management and improving quality. Thus for evaluating total quality of an institution, the quality of its information system should be evaluated.

6. Customer's Approach

Quality should also be evaluated from the approach of an institution towards its customers. It can be judged from the extent to which the institution is able to satisfy its various customers namely students, parents of students, organisations providing placements to passed out students, the government and the society in general.

So for total approach to the quality, all the above ingredients of quality should be taken into consideration.

TQM - The Panacea to Educational Quality Ailment

The modern prescription to attain high quality in education is adoption of Total Quality Management (TQM) approach, which is successfully implemented in profit centered business and industrial organisations. The debate whether the ideas and methods relating to business and industrial or other profit making organisations are relevant to educational institutions which are service oriented and not profit oriented, is not tenable, as in many countries industry related concepts are successfully adopted in technical institutions. TQM is a vital industry based concept pertinent to technical colleges.

TQM is essentially a philosophy of continuous improvement, doing the right thing right on the first time and every time. Constantly trying to upgrade quality, by providing value for money and customer satisfaction is at the root of TQM process. Pioneered by Deming, Juran, Cross by and Ishikawa, TQM also encompasses Kaizen, as a means to incorporate small incremental improvements. The role of management in TQM is paramount, in terms of committment to quality improvement. Another aspect in quality arena is "zero defect" concept emphasising on eradication of defects totally. Serious concern for improving quality continuously at all levels is imperative. Setting up goals and planning in advance for upgrading quality is important.

The above guidelines can very well be applied to technical colleges with suitable modifications as is done in many industries, where no rigid or single model of TQM is adopted, rather a convenient matching system is adopted. Similarly in technical colleges, the aspects of TQM model benefitting the particular system can be adopted.

TQM is a philosophy of continuous improvement which, when applied to a technical college, can arm it with practical tools for meeting and exceeding the present and future customer's needs, requirements and expectations. Thrust on the educational process in microdetails rather than on the postmorterm of the products is the key approach as quality of the product is determined by the quality of the process.

The following steps may be adopted for TQM approach in Technical Education.

- Creating quality consciousness, among all connected with the engineering colleges, viz. the authority or management, faculty, students, parents and the interacting society. This basically involves training and retraining in TQM.
- Imbibing total commitment of the authorities of the engineering colleges, towards quality education, because it is said that the quality problem has it's primary genesis with the management or authorities.
- Treating the students as sovereign authority and creating a feeling amongst the faculty that the institution exists for the students and not for the staff. Students are not the only customers of the educational system, the parents, employees and society are the generalised customers. Since students are the primary and direct customers of the engineering colleges, students should get the best from the system.
- Setting up short term and long term goals for improvement in the quality of education and preparing plan of action with a time frame for execution for achieving the goals. The target of this goal and plan are infrastructure, assets and the abstract education system.
- Auditing the quality improvement programmes at frequent intervals and making suitable alterations whenever necessary in the programmes.
- Providing adequate motivational boosts to the staff to infuse and sustain enthusiasm and dedication towards the set quality goals. This includes satisfaction of physiological needs of engineering teachers at par with industries.
- Providing effective and dynamic leadership to the institutions for successfully implementing the TQM programmes.
- Paying attention to the process of teaching learning and environment in the institution to bring the best out of the students. This includes the interaction amongst students, teaching, industries and quality Gurus. This is highly pertinent for a thoroughly professional education like technical education.

- Eradication of the maximum possible of unnecessary redtapism, though elaborate and judicious documentation is an inseparable part of TQM.

Conclusions

The TQM approach adopted to technical and general institutions has been successful in USA and UK and is gaining momentum in the rest of the world. In our country a beginning has already been made and with a little sincerity TQM can be an inseparable part of our engineering colleges, and the quality of technical education is bound to look upwards. Incorporating quality in technical education must become a great and exciting challenge to all concerned in the coming years, as it would dictate the status of our nation. TQM is a great medium for this objective. Improvement of quality is possible only with a concerted programme of action. Quality is never by chance. In the befitting words of John Ruskin, "Quality is never an accident, it is always the result of intelligent effort."

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Education : Special reference to Technical Education in Assam

Parveen R. Akhtar[1]

Education is an investment in human resources It plays an important role among the various factors which contribute to economic growth It secures returns in the form of skilled man power for development. It also creates the right attitudes and climate for development It exposes the future workers to new ideas, stirs their ambitions and improves, their efficiency as workers

There has been substantial expansion of education in India after independence The task is stupendous. It envisages the involvement of all the members of the society to contribute their worth, however humble, to this social reconstruction Independence brought the promise of equality of opportunity in all the spheres to the women of this country, and laws guaranteeing them equal right of participation in the political process, equal opportunities and rights in education and employment were enacted. The object of these laws were also to widen women's participation in all areas of social activities - economic and political. The incorporation of women in the national mainstream, therefore, becomes a constitutional obligation. To achieve the national goal of democracy, socialism and secularism, women are expected to play a functional role in this direction

Education is a process by which human beings are changed from what they are and to what they may become. Education including literacy is a mechanism to attain a new kind of society In this endeavour there are number of other variables such as urbanization, industrialization and modernization where education assumes the status of key variable for national progress Female education is indeed a sound investment. It carries economic potentialities with the progress of the industrial revolution The economic pressures create tension not only for the traditional but the changing society too Women become conscious of their economic potentiality and use education to advance and strengthen their economic rights and improve their wealth producing capacity Under these pressures, education sub-stream of social change play it's own role The strategy of development therefore, is to popularize education and if possible higher education among women to bring them at par with the men, so that they may share the task of nation building with all their vigour, strength and incentives The Vedic age shows women enjoying a higher status in the society The period boasts of renowned poetesses, mathematicians and theologians. But during the later period the 'Sati' system, child-marriage, polygamy, enforced widowhood and the dowry system lowered the position of women in India

To do away with such social practices, the Indian Constitution has visualized the issue seriously and granted equality of status and opportunity to women. The University Education Commission of 1948 stressed on education of women. The Secondary Education Commission of 1952-53 also recommended that every type of education open to men should also be open to women The Commission feel gratified that many women have joined the faculties of Engineering and Technical Education, Agriculture, Medicine, Vetenary Science, Arts, Commerce, Army and Aviation Women should be allowed to receive education according to their abilities and aptitudes The National Council for Women Education (NCWE) was set up in 1959. As a consequence, the recommendations made by various commissions particularly by NCWE has no longer remained neglected Even the Education Commission 1964-66 made a few suggestions for the development of women's education in India

The National Policy on Education 1986 laid elaborate targets for women's education Even the Programme of Action 1992 laid down several high priority areas for the development of education among women.

In relation to women's education, the present paper focusses the women's participation in technical education in the state of Assam.

In India women constitute nearly 50% of the population The literacy rate according to the 1991 census is 52.11%. While the literacy rate for men is 63 86%, it is only 39 42% for women

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A large gap exists between the utilization of provisions for education of males and females in general and technical education in particular. Technical education is one of the most significant component of human resource development spectrum with great potential for contributing to the national economy and for improving the quality of life of the people. Technical education helps in harnessing the abundantly available natural resources of the country, which may directly and indirectly contribute to the national wealth and material process and add to our country's international prestige. Although technical education has developed and diversified significantly in the last two decades, the participation of women in technical education is still low. Compared to the vocational/technical courses it is found that 60% of the females opt for traditional graduation in arts and commerce. The rest 40% comprise science, medicine and professional graduates. As a result, the proposition of educated youth with no vocational background is increasing. Our development and economy is being deprived of the support of about 50% of the population of females. It is in this context that development of technical education for women has been a deliberate policy of the Government of India since independence. It hardly needs any further emphasis that the access of women to technical education needs to be improved to optimize their participation in the mainstream of the technical work force and to contribute to the industrial economy of the nation. The 'National Committee on Women's Education' has thereby urged the government to initiate actions to close the gap that exists between males and females in technical education in the shortest possible time. The National Policy on Education, 1986 also stressed the need to provide more and more opportunities to women for access to technical education. The Programme of Action, revised in 1992 spells out strategies for implementing the National Policy. Access to technical education is to be improved with special attention to rural areas. Women's enrolment in diversified courses in new and emerging technologies is to be enhanced. Fortunately, women's technician education forms an important sub-component of World Bank Assisted Project for strengthening education in the country. It further reinforced the need to reduce the imbalances in utilization of the provisions of technical education of men and women. Thus technical education for women has a special significance when India is marching towards an open economy with new technologies pouring into the country. A model designing special strategies to enhance participation of women in technical education is needed most urgently.

Assam, situated in the north-east corner of India, is best known for her natural beauty and rich heritage, her diverse culture and people. Assam with an area of 78, 438 kms has a population of 2,22,94,562 (according to 1991 Census). Assam has kept intact its tradition of a higher percentage of literacy than the National level. According to the census of 1991, the literacy rate for the state of Assam is 53.42%. Where 62.34% of males are literate, women literacy stands at 43.70%. Though the literacy rate of Assam is slightly higher than the all India average (1.31% better than all-India percentage), it has not been very much satisfactory because Assam ranks 22nd amongst states in order of literacy. Female literacy in Assam is higher than all India percentage (it is 4.28% better than all-India percentage).

In Assam, the scenario in the field of technical education is not satisfactory. Against the background of 50 per cent of the population being women, the percentage of girls joining the technical courses is too poor. A large gap exists between males and females in the utilization of provisions of technical education. Most women opt for arts and commerce courses, few go for technical courses. In recognition of the importance of technical education, successive five-year plans laid great emphasis on the development and consolidation of technical education, in terms of both quality and quantity in the state, due to which some improvement have been achieved but it cannot be claimed to be substantial enough. The All India Council for Technical Education (AICTE) has emphasized the need to diversify the technical courses and make them more relevant so that the products become more employable. World Bank has come forward to assist in the development and quality improvement of technical education in Assam under which the curriculum of technical institutes are being revised and updated to make them more relevant to our needs. A Curriculum Development Cell has started functioning under the Directorate of Technical Education assisted by the World Bank with formation of the State Project Implementation Unit (SPIU) for the State of Assam. Particular emphasis has been given on technical education for women.

The intake of students in the year 1994-95 in the Engineering Colleges of Assam which includes

1. Assam Engineering College (Guwahati),
2. Jorhat Engineering College (Jorhat) and ,
3. Regional Engineering College (Silchar),

has been given in the following tables:

Level : Degree

Discipline	Total Intake	Men		Women	
		No.	%	No.	%
Civil Engineering	196	176	89.8	20	10.2
Electrical Engineering	155	131	84.5	24	15.5
Mechanical Engineering	165	160	96.9	5	3.1
Chemical Engineering	28	19	67.9	9	32.1
E & T Electronics Engineering	41	34	82.9	7	17.1
Computer Science	57	51	89.5	6	10.5
	642	571	88.94	71	11.059

Out of the total intake of 642, 571 are men and 71 are women. Thus, 88.94% of the students of the Engineering Colleges in the state are male and 11.06% of the students are female.

In the Diploma level, the enrolment of girls in the technical institutions of Assam is also not very satisfactory. World Bank is assisting the state to enhance the participation of women in technician education and also to make some quality improvement in this field.

The enrolment of students in Engineering Diploma Course in State Polytechnics of Assam in session 1996-97 are given below :

Level : Diploma

Polytechnics	Total Intake	Boys	Girls
Assam Engineering Institute, Guwahati	221	204	17
Prince of Wales Institute, Jorhat	181	167	14
Silchar Polytechnic	94	87	7
Nowgong Polytechnic	69	59	10
Dibrugarh Polytechnic	84	75	9
Bongaigaon Polytechnic	23	22	1
Assam Textile Institute, Guwahati	35	29	6
Girls Polytechnic, Guwahati	43	--	43
Residential Girs' Polytechnic, Golaghat	25	--	25
	775	643	132

Out of the total intake 775, 643 (82.96%) are male and 132 (17.03%) are female in the Polytechnics of Assam.

Under the World Bank Assisted Project for technician Education, all states are making efforts to enhance participation of women in technician education with varying degrees of success. Under Technician Education Project-II, significant progress has been made in the project sub-component of enhancing participation of women in technician education in the State of Assam. The percentage of women students has increased from 11% to 14% during the project period and in the year 1996-97 it has further increased to 17% and 21.6% of faculty are women. In Assam, one residential polytechnic for girls has been started in the year 1995 at Golaghat. Construction of hostels for women is under way in Assam. Staff development efforts have been taken as proposed under the project. In Assam 7 out of 9 computer

centres have been established. Assam has also introduced the multi-point entry and credit system (MPEC) in six polytechnics from the year 1995. Our State has so far established 8 Learning Resource Development Centres/Cells. Assam has also established one Maintenance Cell at each polytechnic. No doubt, much progress has been made in Assam in the field of technical institutions still at is very low. A lot more resources and efforts are required to improve the enrolment of women in the technical institutions of Assam.

Higher Technical Education in Twenty First Century : Needs for Drastic Changes

A.D. Telang[1]

Introduction

Twentieth Century has seen phenomenal growth in all respects of life and it is striking in technical sector. Since technical education provides the necessary human resource input, it should have changed and moved step by step along with the industrial world. Sadly the pace of change in technical education has been much slower. The forces of inertia are quite evident. Such an attitude will no longer help. The change of professional education has gradually shown colours of commercialization, particularly towards the end of this century. Professionalism in technical education will, therefore, have precedence over conventional ivory tower attitude. Technical education has to become an ever sensitive, ever responsive and dynamically vibrant system.

In the present paper different aspects of technical education are discussed. Some steps are suggested which can accelerate the pace of such changes. The author feels it is high time the institutions are shaken out of their slumber and are freed from the present inertia.

The Aspects

The present scenario in the field of technical education is not very encouraging. It has improved little in quality of education barring a few exceptions. The higher technical education which has to have a very dynamic system of change is hardly so. The institutions have mushroomed all over the country and in some states the growth has been phenomenal however they are producing engineers more or less on mass scale growing the gap between quality graduates from IIT's and national institutes and others.

Technical education is a very wide field and hence it will not be possible to cover all the aspects of the system. In fact a few important aspects have only been covered in this paper. The three important aspects covered are related to scheme and curricula, industrial training and, stake holders and providers.

Present Scenario

The institutes of higher learning can broadly be divided into four categories:

1. Indian Institutes of Technology and other national institutes like Indian Institute of Science, University of Roorkee etc.
2. Regional Engineering Colleges
3. State Engineering College
4. Private Engineering Colleges

The quality of technical graduates produced by these institutes differs a lot. The matter of concern is that vast difference in all respects -- resources, expertise, facilities etc. The different institutes are more or less insulated from each other. They have developed a class of their own . It is necessary that a system is evolved to have vertical inter-linking so that the expertise of higher institutes can help in development of over all academic atmosphere of lower institutions. The result is the curricula and schemes in these institutions have remained stagnant. The inertia of the faculty against change is heavy.

Another aspect which deserves attention and which has a potential to improve the quality of engineering graduates is the practice of industrial training. At present the industrial training has become more or less a ritual in which none of the parties involved students/institutes/ industries are interested. A scientifically developed training programme can really yield dividend.

Third aspect is the emergence of concerned stake holders and providers. Presently in India the providers are either the Government (State or Centre or both) or private organizations. There is a third

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class of colleges which is linked with industry or industrial houses. Such colleges are exceptions. This makes the conditions difficult. In case of government funding the provider is a faceless source which is represented by ever-changing officials and machinery. Not only the development and utilization of this fund depends on individual interest of the college but the rules and regulations sometimes discourage better utilization. Private colleges on the other hand have a governing body and it depends upon the vision and interest of the provider as to what direction the institute will go towards.

Stake holders on the other hand are an utterly disinterested lot. Students, faculty, college administration, parents, industries and society none takes an interest on a collective basis to improve the atmosphere of an institute of higher learning. It is a rare happening if a few of them come together to act constructively for the institute.

Suggested Changes

Inter Institute Linking : It is suggested that network of technical institutes of higher learning be formed. In a pyramid like structure the apex institute will be the national institute (like IIT) which will have links on regional basis with Regional Engineering Colleges and down to State Engineering Colleges and Private Colleges. This linking will be purely for academic purposes and cells in different institutes can be formed to activate the links. There can be special courses and lectures for curriculum development instructions, for laboratory development and setting up of better and interesting experiments. A series of lectures on advanced topics in theme areas can be organized for the faculty. This vertical linking will form a chain of transfer of technology from higher to lower institutes. It is proposed that each IIT or other national institute should form a link with few Regional Engineering Colleges in that region. The Regional Engineering Colleges in turn will form links with State Colleges and then the State Colleges with private colleges. It may start from the top but it is expected that the academic involvement will percolate to the lower institutes.

Industrial Training : Industrial training is another field where the need is an inter-linking of institutes with industries. The development of the institute-industry inter-linking cell has been a non starter in many cases. It is necessary that nodal industries be identified in the region. The training can be planned over two or three installments It may be on paid basis (however nominal). The industry will in turn earmark some assignments to groups of students who will complete those jobs. This is expected to make the students, the institute and industry serious about it. The student can expect a job in the same industry or line due to his actual training, the institute will get better discipline in training. While the industry will save some of its training period since they can pick up prospective engineers early and groom them. The students will also have a sense of belonging and commitment during training.

Stake Holders and Providers : It is necessary that the importance of these two should be realized and exploited. An institutional committee with representatives of students, faculty, parents, industrialists should be formed. This committee will be having representatives from other committees formed separately of students, parents, alumni, industrialists and faculty. They should be made to realize the importance of their interests which are at stake. Their role should be only towards general importance of institutions.

Another factor is the involvement of Providers. A system of funding from private sources through consultancy, continuing education, research and development, donations to the corpus funds, etc. should be developed. This will help the providing organizations realizing the importance of their interest in the institutions which they themselves have to protect.

Conclusions

Although the growth of the technical education institutes has been phenomenal, it has mostly been in the horizontal direction. A vertical growth for quality is badly needed. The system requires a system of inputs for better management of schemes and curricula, industrial training and utilizing the interests of providers and stake holders. It is suggested that some changes which look drastic at glance,

are necessary for turning around the technical institutions towards quality, which is very essential in the next century.

The Role of Humanities in the Engineering Education in the Next Millennium

M.A. Qureshi[1]
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Ours is an age of technology, especially the fields of Electronics and Computers which pervade all spheres of human activity right from the UN - the August World Parliament, down to the kitchen of a common man. In India, under these circumstances of technological and engineering domination, humanities, social sciences and Management have to play a conducive, dynamic and positive role for developing an integrated and holistic engineering and technological system and consequent upon it, a comprehensive culture that may lead us towards a sublime way of life, specially in our country where the study of Humanities held sway over the minds of people from time immemorial. The end of the World War I, though, ushered in our country, the realization to stimulate the study of technology, and the World War II further strengthened the view; yet it is our national Government which is exclusively credited for the implementation of a vast program of technological studies during the last fifty years. These years saw loosening of the watertight compartments in which the arts, science, commerce, Management, Engineering and Medical education have been sealed so far. Transgressions into the form of bioengineering have been liberally permitted these days. In the years to come, it is expected that it is not the purity of the subject but the requirements of educated young men and women and the development of a comparative national personality that will be the goals of our education in the next millennium.

The Search for a Definition

Humanities, as a term is wide and varied. Subjects ranging from religion, metaphysics, literature to law, politics, economics, history and psychology fall within its jurisdiction. 'Liberal arts', as humanities used to be called in the west has occupied a place of pride in the engineering and technological curricula since long. The aim of its study is to tend the culture of intellect and prepare man for all the offices in private and public life. In contrast to this age of materialism, its aim, rather its spiritual goal is to teach, to inculcate in and bring out the best in man. It is to emphasize the point of view that if divorced from humanities, the one-sided advancement of science and technology is bound to cramp human life. The unwarranted production of nuclear weapons by all big and small, responsible and irresponsible states in our times, has further strengthened this view. It is only by keeping the goal as the social and spiritual conception of human personality, that we can make perfect use of technology and translate technological advancement into social gains in the next millennium.

Specially Essential for Technologists

1. Today, technology is forging the engineers into leadership elsewhere and in India too. With so many diploma and degree holding engineers in the market and with yet many more to come, it has recently been said that the Indian democracy shall soon turn into a 'technology'. Whether democracy may or may not culminate into 'technology', the recently coined word 'technocrat' is already in rapid currency these days. Let us hope that more and more generations of our engineers shall hold the reigns of the government. In public service examinations, about 17 to 18 positions out of the first 20

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or so, are secured by the engineers. As such, the highest civil services in our country will soon be dominated by officers with an engineering background.

2. Today, in course of rapid development of technology, one of the dangers against which a good education has to make a necessary safeguard is the over-influence of technology and science, upon the thought and behaviour of the students, which can lead them to withdraw themselves from all activities pertaining to human relations such as political, social, economic, historical and even family.
3. The proper application of engineering theory to the practical problems of our industrial and social systems always requires a prudent consideration of the economic, social, political and administrative factors that are intrinsic to almost every engineering situation. The engineer executive in government offices and in public and private sector industries before laying down a policy or implementing it or making a decision, has to review it from engineering, economic, political, legal, psychological and social angles and has to again examine its consequences in all these respects.
4. The education and training of the engineering is to look at the things objectively which prompts him to make decisions by hard, basic and inconvertible facts. While in an industry or government office, the majority of decisions taken by him are subjective. Our engineer substantiates his case on facts verified by laboratory experiments and for him the fact is a fact. The study of humanities comprises mental gymnastics for him in subjective reasoning and logic and in the analytical review of what all he says and does.
5. The study of humanities besides creating motivation, diversifies the minds of the students in to a plane quite different from that of technology and it also opens to them new vistas essential to develop their mental aptitudes. It plays a key role in shaping the overall personality of an individual, i.e. physical, mental and moral.
6. To lead a full life, social and personal satisfaction and aesthetic fulfillment of an engineer are more necessary than the knowledge of pure technology and applied science. They save him from the melancholy and miseries not only of his personal and professional failures and shortcomings, but also relax his mind from the horrors of the negative advancements in science and technology, and make his life enjoyable, rich and long.
7. At the national level, the study of humanities imparts in the students of technology with ideas of citizenship which implies more than the mere fulfillment of the elementary political duties; it requires social, economic, religious and political tolerance, a sense of justice and a democratic conscience.
8. The study of humanities also serves as a source of unity among the students of technology pursuing different streams of it, a unity among the student community as a whole; rather among the future scientists and technologists and the humanity on the widest scale.
9. On the basis of a recent survey conducted by the Department of Humanities and Management, it has been found that 90% of the engineering students appearing in the Civil and Allied Services offer advance papers pertaining to Humanities and pass with very good marks because the subjects that belong to the domain of humanities are compulsory; right from communication skills in the first semester to the Constitution of India, the Indian Economics and general principles of Psychology in the third and fourth semesters, Principles of Management and Principles of Financial Management in the fifth and sixth semesters and Advanced Papers of Human Resources, Organizational Behaviour, Labour Welfare, Industrial organization, Building Economics and Management in the seventh and eighth semesters -- all subjects lay a very solid foundations for our students in these papers to be offered as papers of advanced studies. These papers also help the engineering students in laying down solid foundations for general knowledge papers for any competitive examination. It is heartening for the teachers at MACT that every year some top and other positions in the competitive examinations are secured by their students. In the same survey, it has been revealed that these subjects are of great help in confidence building, personality development and for qualifying in the group discussions and personal interviews held for the campus recruitment and otherwise.

The journal of Engineering Education, long back in September, 1952, had quoted the report of the 'Committee on the Improvement of Teaching'. The Social Sciences and Humanities courses are, in their own right, vital parts of the engineering education. Their function is to give the student a mature view point gained through an increased knowledge of cultures and civilizations; an understanding of social and ethical concepts and their effects on the present day world; an insight into the origin and functioning of the social and industrial institutions, as well as an understanding of economic principles in

modern industrial society. They provide experience with a reasoned approach to conclusions. They offer opportunities for enriching intellectual lives. Any attempt at non-channelizing such courses into purely engineering areas will deprive our students of essential opportunities for development.

Though the history of industrialization tells us about a number of industrial revolutions in various countries like the Industrial Revolution of England in the 17th and 18th centuries, yet to our mind, broadly speaking, there have been only two Industrial Revolutions:

(1) When the human beings transferred manual or physical labour to machines, and
(2) when they tried to transfer mental Labour to machines.

Therefore, humanities is as essential a concomitant for a well-rounded system of education in technology as the relevant workshops and laboratories are to verify the different engineering theories by practice and experiments. It is needless to emphasize that the students of technology, who are already overloaded with their own subjects, must not be taught humanities in the manner of students of arts colleges; and their examiners ought be reasonably lenient.

It was the philosopher and political theorist de Tocqueville who said it far more than a hundred years ago :

> *"It would seem as if the rulers of our time sought only to use men in order to make things great; I wish they would try a little more to make great men."*

A Public Limited Engineering College

Hemant S. Patil[1]
A.J. Shah[2]

A college necessarily creates an impression that it is government-aided or a government college. These days, it may mean a private college, particularly, in engineering faculty. Already, many such private colleges have been functioning since years in the states of Andhra Pradesh, Karnataka and Maharashtra. Gujarat has just made a beginning. However, the concept of a public limited college is only a synthesis of the concept of the capitalistic/industrial background prevailing in the Gujarat state with the quality and efficient management of an engineering college. The concept is not new. If as diverse fields as hospitals (e.g. Apollo Hospital), entertainment (G.V. Film) can take the road through capital market, why not education. APTECH has been a successful venture and many other software training companies are taking the plunge in the capital market. So why not the technical education. The only requirement is, it should bring handsome dividends to the shareholders on an optimum capital base. The fee structure should be so designed to take care of the basic necessities. A simple financial model is presented here.

Let us consider an optimum number of branches involving a not so huge infrastructure. For the current case, the branches may be electronics, computer, engineering or information technology or instrumentation or telecommunication (any of these four) along with civil engineering and architecture. Mechanical or chemical engineering requires a huge infrastructure of workshop and other hi-tech laboratories. The electrical/electronics related branches are basic and their total infrastructure is divided into three branches. These branches are basic plus advanced and are here to stay for long. Civil and architecture are also closely linked and have a common infrastructure. These are not only basic but also have a good potential for related testing and consultancy in and around the city of establishment.

A number of sixty per branch is also supposed to be optimum. This involves the prevalent norms of efficient teaching. Thus, the total intake of the college per year will be of 300 students. Considering a four year degree course, the maximum strength of the college will be 1200 students only. The teaching load for one semester at a time for a branch will be 4 semesters x 5 subjects per semester, i.e. 100 subjects per semester. This will involve a theory class load of 100x3 hrs/week, i.e. 300 hours per week. Assuming each faculty member will be required to engage at least three subjects per week per semester, the number of faculty members required will be 300/9=33.3 i.e. say 34. The teaching load per week, overall per teacher will be 16. So, out of 16, 7 hours are to be utilized for tutorials and practicals.

The major load of practicals is to be borne by efficient and qualified technicians. The regular teaching faculty members will only explain the experiments at the start and will leave the routine performance of the practicals at the hands of skilled technical staff. Assuming that three out of five subjects will require practicals of four hours per week per subject, the total hours of practical work required for technicians are 5 branches x 4 semesters x 3 subjects x 4 hours per subject, i.e. 240 hours. It is quite reasonable to consider a work load of twenty four hours per week of a technician and two technical persons at a time. This will necessitate twenty technical staff.

The office staff required will be one principal, one registrar, two deputy registrars, four clerks, four peons and four watchmen. Thus, it will be an optimum unit of eighteen.

We are now in a position to calculate the annual salary budget for this strength of faculty and staff. The salaries are considered a bit higher than the prevailing norms in order to attract quality personnel as well as to retain them. This will bring in more involved work with responsibility and commitment.

(1) Faculty - 34 No. x 12 months x 12,000 per month - 48,96,000/-
(2) Technical Staff- 20 No. x 12 months x 8,000 per month - 19,20,000/-

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(3) Office Staff - 18 No. x 12 months x 6,000 per month	- 12,96,000/-
(4) Principal - 1 No. x 12 months x 20,000 per month	- 2,40,000/-
	83,52,000/-
(5) Overheads for maintenance and other purpose	- 6,48,000/-
(6) Deptt. operating Costs and other contingencies towards establishment etc.	- 10,00,000/-
Grand Total	1,00,00,000/-
(7) Factor of increase due to unforseen events, i.e. inflation, student amenities, books, other facilities not counted as above	20,00,000/-

Annual recurring budget of Rs. 1,20,00,000 (1.2 crores)

This indicates the recurring cost of (1,20,000/1200) 10,000/- per student.

Now comes the real clinching issue. If 50 percent students are to pay the fixed tuition fees of Rs. 10,000/- per year and remaining 50 per cent pay the enhanced fees of Rs. 40,000/- per year, the total revenues generated will be

Rs. (1/2x1200x10,000+1/2x1200x40,000)=3,00,00,000/-

Thus, the gross profits generated will be Rs. 1.8. crores per year. This assumes that parents are willing to pay for quality education. If strict quality control is enforced, people will not mind paying Rs. 40,000/- for engineering education. Considering that for pre-primary and middle school, a normal expense of Rs. 10,000/- is willingly accounted for, a fee of Rs. 40,000/- is not unreasonable Right now, parents are paying for the same in case of donation seats.

Now let us consider the gross revenue that is generated, on which capital base, the net square fee area of construction required is calculated as follows:

(1) Area of Classrooms	
5 branches x 4 semesters x 8m x 8m classroom	- 1280/-
(2) Area of laboratories	
5 branches x s laboratories x 8m x 16m lab	- 1920/-
(3) Office establishment/toilets/common room/ canteen/meeting hall, etc.	- 800/-
Total net area	4000/-
Total gross area super built up @ (net area/0.6)	- 6667- m2

∴ Assume built up area of 6700/- m^2

Cost of construction

along with other necessities Rs. 3000/- m^2 x 6700 - Rs. 2,00,00,000.

The land required will be a minimum of around four to five times the built up area at the net rate of say Rs. 2000/- m at he outskirts of a city. Thus the major cost of the land will be 30,000 m x Rs. 2000/- m = Rs. 6,00,00,000/-, i.e. say 6 crores. Add to this the laboratory development cost of Rs. 1 crore and contingencies and cash flow requirement of another 1 crore.

Thus the total capital base required will be Rs. 12 crores.

	Rs. in crores
Land	6.0
Building	2.0
Laboratories	2.0
Library	1.0
Contingencies/cash flow required	1.0
Total	**12.0**

Thus the capital base will be of Rs. 12 crores. This can be reduced to 6 to 9 crores. Based on this, considering debt/equity ratio of 2 to 1.5, term loan of Rs. 6 crores can be obtained from a financial institution. Considering a capital base of say 8 crores and term loan of 4 crores, the final figures are presented as below. This will be the position after 3 years when major loan will be repaid with interest; the college is operating at full strength and testing; consultancy, computer classes, continuing education program, vocational and certificate courses are generating at least 20 lakhs per year.

Capital base	6.0 crores
Operating expenses	1.2 crores
Income generated	
(I) Fees	3.0 crores
(II) Other Income	0.2 crores
Gross profit	2.0 crores
∴ gross profit	2.0/8.0 x 100 = 25%

Out of which 15% can be passed on to share holders in the form of dividends.

Concluding Remarks

This is a simple, steady state, idealistic working model combining the experience of running an engineering college with the observations made from the capital market developments. There are no formal references needed for this presentation. However, to make one model practically viable, suggestions/modifications are invited from interested readers, faculty members, industrialists and capital market professionals as well as students. The authors are confident, that if given a chance, they can make this happen with the assured rate of dividend.

Needed-Restructuring in Engineering Education

B.M. Naik[1]

Introduction

If India is to become a significant economic power in 21st Century, we must think of restructuring engineering education and charge it WITH A MISSION OF INTEGRATING EDUCATION, RESEARCH AND INDUSTRY. The rapid technological change, newer technologies and their desired applications in industry demand that the traditional organizational structure of Colleges, Universities, need to be freshly designed The old methods, structures, linkages and values which at one time have served well, today, are no more fit. Strategic restructuring and reorganization of technical education by establishing technical Universities is the pressing need of time. In this paper it is reiterated that without revitalizing technical education and setting of technical Universities Indian economy and industry, howsoever desired, can not become globally competitive. Reforms in technical education have to precede reforms in industrial development.

Present Universities Fall too Short of Requirement

The present day Universities in India for various reasons have, failed to cope with demands from fast changing hi-Tech. education. Inspite of high potential of engineering colleges, teachers and students because of inherent weaknesses of affiliating system they have not been responsive to changing needs. Universities have been thwarting, impeding these colleges and people in them. They are 'Hamstrung" organizations not fit for nursing new ideas and new technologies. They are far too behind the world.

Although we produce so many graduate engineers and technicians every year, yet our scientific and technological achievements bear no relation to these vast numbers of these graduates. The quality and relevance of education by world standards is misplaced.

The need today is of a massive programme to educate masses in engineering, and do innovation, to our needs, so as to give a new direction to economy and business. This can not happen through the conventional University, for they are not designed and hence it is beyond their capacities. It requires exclusive treatment like agriculture universities, which integrate education, research and extension.

In liberalised economy, external pressures are mounting on Indian industry, forcing them to change and to be more competitive. Those industries which can not cope with, become sick, and go out of business. MNCs are bringing newer technologies and more competent manpower from outside. So as to equip our industry with able manpower and make it competitive, technical education, 'life long" needs to be urgently upgraded.

Huge investments are made by the government and people in industrial development But because of inadequacies in technical education and consequently less competency of engineers they are less productive. Most of the industries are sick, locking up huge capital in them. The productivity of industry now depends very much on performance of institutes. The manpower produced by institutes is an input to industry and hence their capability to industry is of vital importance.

Research Base to Education is needed

Technical education institutes today are suffering from the deficiency of innovation. They have no research departments. Without research based to engineering education it can not remain relevant and uptodate. The technology changes four to five times in the service career of a teacher. How can a teacher teach the latest, if he is not involved in research? Technical education institutes now in changed context have to provided not only competent manpower but also newer technologies to industry.

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They ought to be restructured specially to cater to these missions. It is found from experience in the world that students learn best by doing research, and hence research base to education is essential.

The engine for industrial advancement in India, till now has been abroad. The foreign collaborators have brought newer plans, products, and processes to industry. The institutes and academicians in India, have remained away from industry. On the other hand collaborators have gone nearer to them. Time has come that industry and institutes, should move near to each other and create systems which will revitalise both on continuing basis.

Path Shown by Agriculture Universities

In India, agricultural education and agricultural research and extension are looked after by the Ministry of Agriculture, which is responsible for agricultural production. The agricultural universities set up after 1960 in every state receive their funding from the Ministry of Agriculture, and not the Ministry of Education. The direction and targets for research, education, etc., are also established by the Ministry of Agriculture, which provides matching funds.

It is believed that this strategy has been the basis of India's success in alleviating its food problem, increasing food production from 50 million tonnes to 200 million tonnes. If agricultural education had continued to be governed by the Ministry of Education, it would never have received the priority, funding and direction that it needed to address the nations critical problems of food production.

By the same logic, if industrial production is to be increased, for which the integration of higher education with industry is crucial, especially in the fields of science and technology, then it seems appropriate to place control of these areas of higher education together with industry in the same ministry. This strategy of, say, putting engineering education, research and industry under one ministerial roof, is especially applicable to developing countries-where industrial development plans may be going in one direction while technical education and research plans are going in another, as if one strategy had nothing to do with the other. As a result, there is much irrelevance in education and research: what is taught is not wanted and what is wanted is not taught, what is wanted is not researched and what is researched remains unused. On the one hand, many engineers and educated people are unemployed, while on the other hand people with the required skills and knowledge are not available. Huge capital investments in industry remain idle or underutilized, rendering firms weak and working well below their installed capacities.

More funding to industry, education and research is important, but more important is the productivity of funding. Productivity of funds provided to both higher education and industry will increase if they are strategically coupled.

Universities and education ministries, especially in developing countries, tend to be insensitive to market opportunities. They may be ill equipped to understand and cope with the high-speed environment of business. Universities sometime have a lack of vision in relation to the speed and direction of industrial growth, continuing to work on more traditional lines, teaching outdated courses which have become irrelevant. If teachers continue to teach what they know rather than what students ought to be taught, this is wasteful and needs to be remedied.

A structural change in the manner of funding and strategic control of industries and institutes may therefore be desirable. If appropriate sectors of education and industry are brought under the same umbrella, there will be better coordination. The hypothesis has been tried and tested in the agricultural sector and it deserves a trial in engineering.

Suggestions

Set up technical Universities like agriculture Universities

I) with a mission of -
   i) Education
   ii) Research and
   iii) Extension
   in an integrated manner.

II) Elevate one of the Govt. Colleges in each region to the level of University. This will avoid delay and reduce cost.

III) Bring Degree, Diploma and ITI institutes in a region under the control of a technical university, regardless whether they are private/aided or Govt. make them autonomous.

IV) Connect technical education to ministry of industry, like agriculture Universities draw funds from agriculture ministry, and medical education draws funds from health ministry. This is recommended by UNESCO especially for developing countries.

V) Set up a council of leaders in industry and leaders in education at State Level to look after planning and monitoring of technical education.

VI) Set up industrial services department and innovation centre, Technology park in each University, so to give "Technology Push" to economy and to reduce sickness in industry.

Conclusion

What is needed at this juncture of time to improve industrial competitiveness with integration of education, research and industry, by establishing technical Universities, on the lines of Agricultural Universities.

Restructuring and reorganization as suggested above to setup exclusive technical Universities widening their scope to cover Polytechnics, ITI to do education, research and extension is the crying need of the hour. Without this, problems in technical education will remain unattended and industry will not be able to face global competition. The likely penalty to the nation for not establishing technical Universities is very heavy, so much, so that, further generations may not pardon us.

A Hybrid Model of Technical Education in India for the Next Century

R.C. Chauhan[1]

Introduction

Technical education is defined as "the process of acquiring/imparting particular skills as for a profession". There is a close and complex interaction between Science, Engineering and Technology, nevertheless, their objectives, activities and values are quite different from each other. The difference between Science and Technology (engineering) is fundamental as the former deals with things as they are and the latter with things as they ought to be. The sum of scientific engineering and technological knowledge is a continuously expanding resource of unprecedented richness and values. Engineering and Technical Education is clearly the most important in contributing to the economic viability of any nation. As Schumacher says "education is the most vital resource". In today's industrialised society, a broad based system for education and training is more essential than even natural resources.

While dwelling upon the path of history, many prominent philosophers of the 19th and early 20th century termed the historical development of Engineering and Technology was taking place in a linear fashion. But the Engineering and Technological developments which took place in the first and second quarter of the present century have changed our view about the course of civilisation in a significant manner. Since the invention of the transistor in the 20th century, the nature of progress of technology can be termed nothing short of "exponential". Owing to this "non-linear nature of future", it is not possible to correctly foresee the changes which are to occur. Nevertheless, a logical extrapolation of the recent past can help us to deduce the future in very general terms. A lazy sketch thus drawn can guide us to prepare ourselves for the dawn of the next millennium.

Technology has had a great impact on the way we used to live and behave. Dependence on the gadgets and intensive use of energy has increased the complexity of the systems as a whole. A revolution in information technology and computer science has not only shrunk the geographical distances and turned the world into a global village, but also has relayed an enormous flood of information to the individual. If some one gets hooked on to the Internet without a clear idea as to what he is looking for, he is surely going to get drowned in the ocean of unlimited information. Sociologists and psychologists are already seeing red in this matter and are showing great concern to save the human being from the burden of information. There are search engines and other tools available to filter the right information for us. But it is a fact that the information explosion has already started stressing us. It is, therefore, necessary to educate the next generation in the light of a broader perspective and train them to pick up the right information without incidental effects and efforts.

In the ancient times, technology transfer from father to son was a family affair. Not everybody had access to the know-how about or how to fabricate any particular item. When technology reached the university level it was only for the elite class. The view point of civilisation has changed significantly from the past centuries to the present due to the advancement in the field of Engineering and Technology, which explicitly came out of different models of technical education in practice. However, to make it more accessible and worthwhile to peoples of all societal strata, it is time for a meaningful inspection and critical review of the prevalent models of technical education and to design a hybrid model of Technical Education for our country which can stand up to the challenges of the coming millennium. Hence, in this presentation, a comparison of the existing model of technical education with the Hi tech and the proposed models have been made, in order to assess their suitability.

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Present System

1. Conventional Model

The prevalent education system in our country follows a 4 year degree course in various branches of Engineering and Technology. This system suffers from various shortcomings which are listed as follows:

Lacuna-1: Lots of theoretical knowledge and analytical skills on paper, but how to convert them into solutions in the field is not taught to the student. In the present (i.e. four year degree course) a lot of stress has been given in teaching the theoretical knowledge with maximum analytical skills on paper. There are not enough opportunities for the students to realise these skills experimentally and thus they don't know how to convert the knowledge gained into solutions in the field.

Lacuna-2: Weightage of experimentation and innovation is very less. Experimentation (i.e. field knowledge, practical training) and innovative type of qualities in students are not encouraged and are also not given due weightage in the present engineering education system. In this regard, Sir M. Visvesverya said that "the greatest drawback in Indian education is the omission to give practical training to the young and old in the use of modern tools and machinery which is a part of the equipment needed for industrialisation. One of the main objects of education is to train the recipient for the battle of life".

Lacuna-3: Development of creative faculties not given due emphasis. The faculties of engineering institutions should be encouraged to undertake technological/scientific projects and should be asked to disseminate the practical knowledge to students. Due emphasis should be given for their creativities at all levels and students should also be asked to assist the teachers in these activities.

Lacuna-4: No weightage on personality development. Educational institution, in general, are not giving proper attention to each and every student in his personality development. Students who excel in extra curricular activities, sports, culture etc. have very little support from the institutional organisation. Each and every student individually should be taken care of and should be given ample opportunities to explore his/her best. No student should feel ignored either in class or playground.

Lacuna-5: Access to the appropriate information is limited. Every engineering institution should try to give maximum information technology knowhow/exposure to its students. Present world is a world of information (highways and superhighways). Information facilities as E-mail, Internet, Computer etc. should be made easily accessible to each and every student.

2. The High Tech. Model/The Multimedia Invention

Recently a cartoon appeared in a magazine showing a young lad sitting in front of a PC and his parents saying - "He is no more interested in college". Although depicted in a lighter vein, it picturises the classrooms of tomorrow. The interactive multimedia learning tools and CBT (Computer Based Training) packages might take students away from the class room. A student interested in pursuing education in his area of interest might just undergo learning sessions on a PC and appear for the qualifying exams on the PC itself.

In fact a miniature of the above depicted scenario is already gaining ground with various organisations like NOVELL, the networking giant and Microsoft. They offer self learning courses and the student has to appear for an online CAPE (Computer Assisted Paper Less Exams). This is going to be a universal phenomenon in the time to come. The drawbacks of this model are as under:

Lacuna-1 : Interaction with environment and society will decrease. High tech. Model will limit the interaction of students with environment and society, thus depriving them of the fruitful practical experience and knowledge. It will only turn them indifferent to social setups and cultural values.

Lacuna-2 : The human touch will be reduced. It will make them more and more mechanised, thus reducing their sensitivity towards other beings. More self-centered and physically and mentally ill-developed.

Lacuna-3 : Previous experiments in this regard has failed. The field studies of Hi-tech education model have not shown good results in the student's developmental process.

Lacuna-4 : Greater diversity shall prevail among the pursuant of technical education, as it is limited to higher class of the society. The infrastructure required for High-tech education model is an expensive one and will be beyond the reach of common public and will be limited to higher class of the society.

Proposed Model

The proposed model may be thought of as a pragmatic one emerging out of the conventional system and the high-tech Model/multimedia intention taking into consideration the advantages and limitations of these two systems. The model is economical as utilisation of infrastructure is optimum. The main points that the proposed model advocates are:

1. Classroom Teaching may not be abolished. Attendance in formal teachings session is an important factor in the performance level of even highly talented students. This is the conclusion of Das and Krishnamoorthy (1993) on data collected over eighteen years of research.
2. The multiple entry pattern of education may be taken as the basis by teaching the student from the lower classes to the higher education level and then training them in the Institutional Industries, giving them clear cut guidance so that they may not divert from their goals.
3. More practical oriented education. should be the base of the proposed engineering education for the next millennium at engineering level of every education process. Practical experience gained by the student and his excellence in this should be properly rewarded.
4. Industry/Institution interaction at both levels i.e. students as well as facultylevel is needed. Technical Education system in India today seems to be aimed at the development of basic ability, talent and skills in selective technical areas, not so much harmonising the graduates to the actual demand of the industry. This may be due to the missing cohesion between the two.
5. Greater emphasis should be on appropriate technology. Technology is changing at a fast rate. Thus, engineering students should be made aware of the environmental friendly and cost effective technologies. Engineering education curricula should give due weightage to the teaching and use of appropriate and sustainable technologies.
6. Energy consciousness, efficiency, economy be made an integral part of the curriculum. With the changing scenario of environmental sustainability, depleting natural energy resources, etc. greater emphasis should be given to incorporate the teachings of energy consciousness, efficiency, cost effectiveness and social viability of the engineering and technological processes.
7. Greater specialisation at graduation level can enhance the information explosion to a large extent. More weightage to the specialised subject at graduation level will be beneficial to students and teaching of the latest developments in the subject will enhance the capabilities of the students to cope with the information explosion to a large extent.
8. Employment opportunities including self employment to the specialised graduates. Campus interviews, Industrial personnel campus visits, setting up of employment exchanges/training and placement divisions, students counselling centres, activities should be an integral part of the present engineering education system. Besides, students should be prepared/trained for self employment through STEP (Self Trained Entrepreneurship Programmes). Hence, greater employment opportunities including self employment should be provided by the educational organisations.
9. Emphasis should be on transfer of technology to the villages. Any technology, with its limited use or without its use to solve the problems associated with the common man is of no use. Technology should be developed keeping in view its use for a common man. Particularly, in context of our country (India) where the majority of the population still lives in villages, efforts should be on to develop and transfer of technology to the villages.

Integrated Modular Education: A Rewarding Experiment

India has phased planning to impart Engineering and Technical Education by establishing institutions like NERIST (North Eastern Regional Institute for Science and Technology) and SLIET (Sant Longowal Institute of Engineering and Technology) on the concept of Integrated Modular Education with

the philosophy to produce technical manpower at lower, middle and higher level simultaneously. A unique feature of the education system of these institutes is the concept of practice school with a minimum of six trimester vocational training before achieving the graduation degree.

Conclusion

Technology is never "global" or free. It has to be generated nationally. Technological self-reliance is not an option, but an imperative for healthy, equitable and sustainable development. There is no substitute for it. Technology is "Value free". It does not favour any particular type of value. It depends on how one uses these values. But on the other hand it is not value free. It is a value loaded system/process. So, man has to ensure that these tools should not become bombshells for potential self annihilation. This tight rope situation, therefore, calls for our commitment to the spirit of aesthetics, morality and social ethics. These traits will cut the track on which the human race moves—more powerful than ever. The journey will be remarkably elegant with scientific clairvoyance at every step.

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Industry Requirements of Engineering and Technology Education in India

Y.V.S.R. Moorty[1]

Introduction

The internet and other communicating systems have made, the transmission of knowledge and information from one place to another and from one person to another possible almost instantly. This high speed communication has given scope to a large number of activities. Therefore, it is necessary to develop a continuously variable system of Education and Training to cope with the changed situation. The present study is a brief discussion of some existing methods as well as new methods contemplated for the industry requirement of Engineering and Technological Education in India.

Present Scenario of Indian Industry

In the industrial and post industrial society technology is one of the curical factors which determines the wealth of the nation. Indian industry has to be updated with the latest technology to compete in the world market to have a cutting edge. The quantum jump in the technological development be best achieved through a Syenergy space. Relationships with mutual understanding should exist between academic and research community on one hand and the industry on the other side.

The small and medium enterprises would be most benefitted by interaction with the academic for upgradation of existing technology, evaluation and adoption of new technology.

One of the major shortcomings of Indian industrial system is its lack of emphasis on skill development. Survival in todays, competitive global scenario requires that our educational system is able to respond to fast changing technological advances keeping in view of our social responsibility and financial limitations.

The present day industry in India seems to have not much faith in the education and training imparted by the Engineering and Technological institutions in India. Industry requirements change very fast with the technological change in India.

The educational institutions in India are unable to cope the post industrial requirement; due to various factors such as escalating costs of Software and Hardware and social absence of suitable skilled/trained manpower to understand and reach according to the industrial requirements.

Present Scenario of Engineering Education in India

There are about 500 engineering degree colleges producing 1,00,000 engineering degree holders annually, about 1,500 polytechnics producing about 2,00,000 engineering diploma holders. There are about 4,000 craftsmen course institutes producing 5,00,000 certificate holders. These candidates cater to the needs of various industries in different specialisations and skills. In addition to this, there are standard examinations for private candidates in all the above three categories which contribute about one third of the above figures as far as candidates are concerned. In India, the technical manpower in different grades is generated by Engineering colleges, Polytechnics and Industrial Training Institutions.

India, in its industrial growth in the last fifty years, has grown up as a major technical manpower in the world. The Education System in India has also taken radical changes due to recent technological trends. These have been identified by the government and experts in the field of education as well. This has been starting point for university/industry interaction.

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Objectives of Government of India in Regard to the Education

Government would accept a larger responsibility to reinforce national and integrative character of education, to maintain quality and standards (including those of the teaching profession at all levels), to study and monitor the educational requirements of the country as a whole in regard to manpower for development, to cater to the needs of research and advanced study, to look after the international aspects of education, culture and Human Resource Development and, in general, to promote excellence at all levels of the educational pyramid throughout the country. Concurrency signifies a partnership which is at once meaningful and challenging; the National Policy will be oriented towards giving effects to it in letter and spirit.

The Identified Requirements of Engineering and Technology

In view of the rapid research and better speed of communication through multimedia, it becomes inevitable to develop high quality manpower in Engineering and Technology at all levels from design to physical skills. Thereby mental and physical skills are becoming more and more specialised and narrow. This creates demand to unify these narrow fields of human power to the next level

Suggested Methods for Meeting the Requirements of Industry in the Engineering and Technology Education

The industry has to interact with concerned institutions for its existence and development Due to rapid research findings in various fields, it becomes uneconomical and sometimes difficult to update the institutions with new laboratory equipment for the institutions. Therefore, interaction between industry and institutions are necessary continuously For this the following nine application oriented needs and niches emerging with greater force in the information and decision technologies are required at all levels

1. Personal Work Stations
2. Graphics Interfaces
3. User Friendly Expert Systems
4. Computer aided Software Engineering
5. Computer aided System Engineering
6. Information Security
7. Alternative/Attribute Generators
8. Group Decision Aids
9. Multimedia Systems

It is worth considering seriously the introduction of Knowledge Engineering beyond experts systems. The benefit of Knowledge Engineering is the efficient preservation and transfer of expertise (ten forms of knowledge are given below) within and between organisations, (industry and institutions etc..) with implications for enhancing training and technology transfer.

Ten Forms of Knowledge

1. Procedures
2. Specific Details
3. Declarative Knowledge
4. Physical Relations
5. Inter-Personal Knowledge
6. Perceptual/Cognitive Skills
7. Receptual/Motor Skills
8. Goals
9. Precedents
10. Cultural Knowledge

Some possible areas of interaction are:

1. R & D support
2. Knowledge transfer
3. Technology transfer
4. Continuing education
5. Sharing of facilities like equipment, library, computer centre
6. Institution of chairs by industry in university
7. Upgrading of laboratory facilities, library etc.

8. Training of staff and students in industry
9. Scholarship for P.G. Students
10. Financial awards for faculty/students for excellence
11. Faculty exchange
12. Curriculum development
13. Associating industry in the planning, management and development of universities
14. Industry funding specific programmes and projects
15. Evaluation of programmes - industry to assist in the evaluation of performance of specific programmes as regards to social relevance and effectiveness.

Some major factors promoting Industry - Institute linkages are:

1. Initiative of individual teachers
2. Support from the Head of Department/Institute
3. Regular exposure of teachers to industry
4. Nearness of the University to industrial area
5. Availability of modern equipments and facilities in university
6. Training and orientation for teachers in developing linkage with industry
7. Providing forums for teachers to meet with people from industry
8. Proper incentives and rewards for individuals and departments
8. Creating mechanism/cell to promote linkage with industry
10. Redefining the "Mission" of the university, if needed, to include Industry-University Interaction as a part of the Mission of the University
11. Publicise university expertise, facilities and activities
12. Encourage workshops/continuing education for working professionals from industry in the university
13. Network with other universities and take up joint ventures
14. Make it mandatory for universities to generate 10-20% of their financial requirements through research/consultancy/continuing education/lending of facilities
15. Proper documentation and dissemination of information and activities.

A Continuously Variable System of Education - One Suggestion

The following models (page 827-829) can be used for developing a continuously Variable Systems of Education and training in tune with the rate of Scientific, Technological and Engineering Developments.

The rate of changes of improvement or otherwise should be nearly equal to the rate of change of Research and Development.

Conclusion

To realise the above suggestion it is strongly felt the need of establishing organisations at International and National levels to develop, plan and implement a continuously variable/changing systems of education/curricula at every level of education and training to avoid confusion and choas (leading to bifurcation) before it is too late.

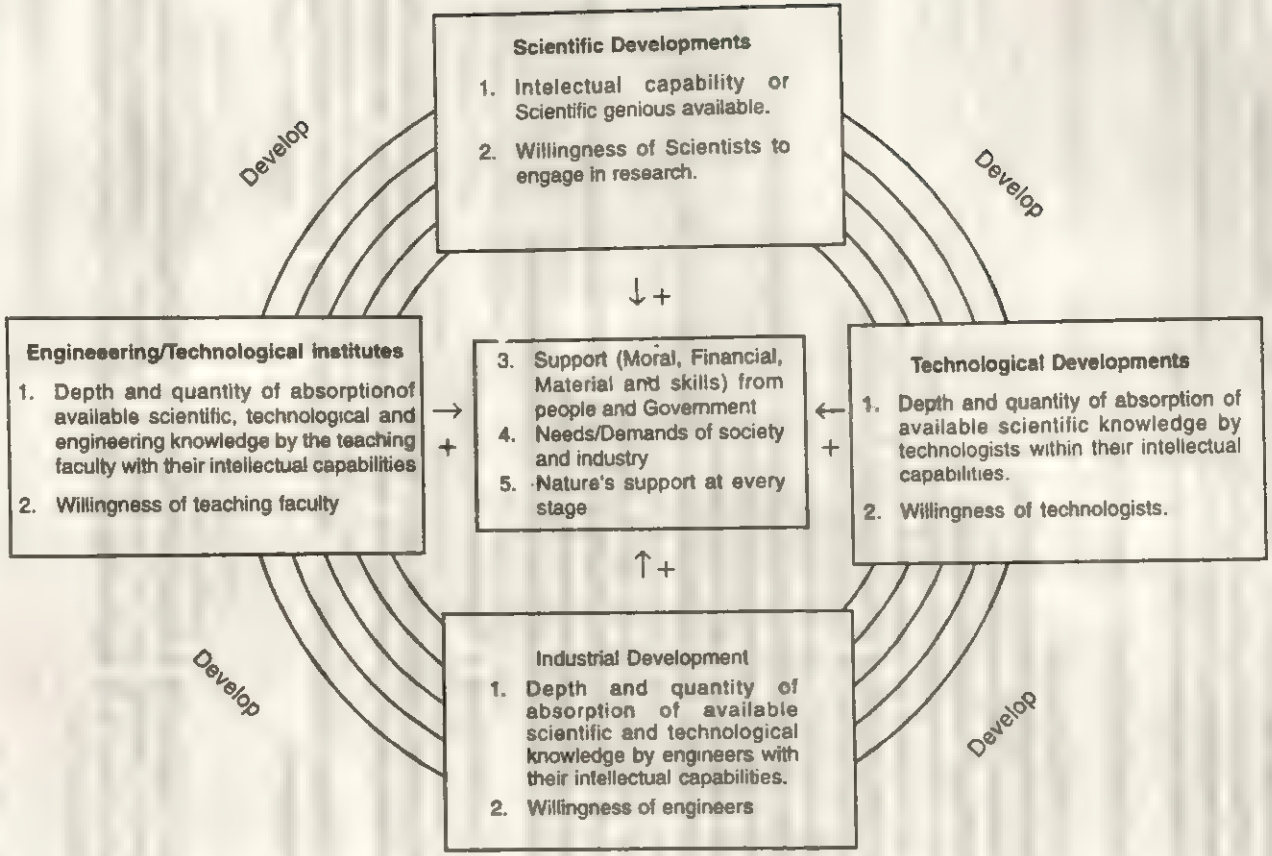

Fig.1 Moorty's Model for developing a continuously variable system of education and training

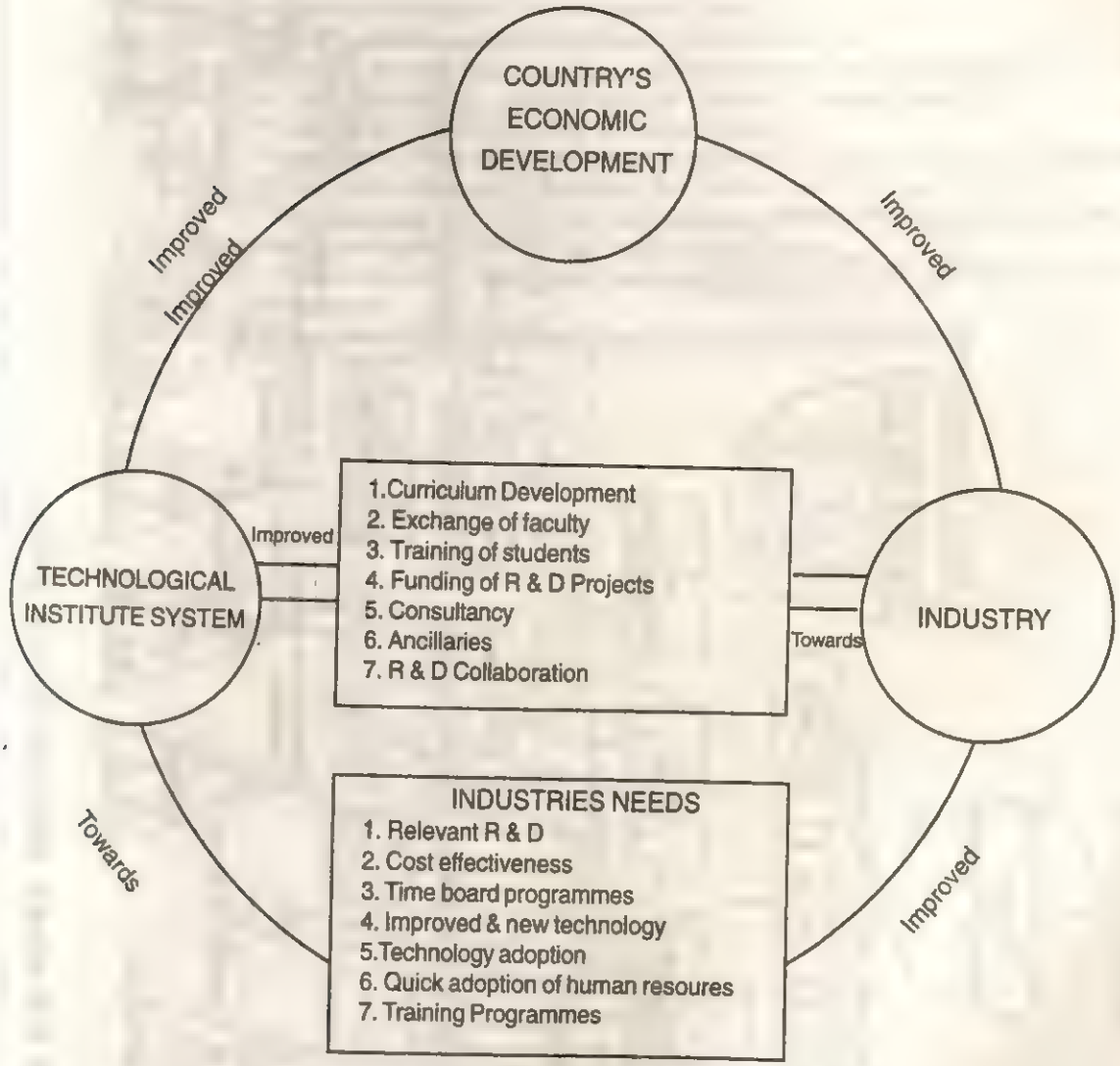

Fig.2. Dr.Swaminadhan's Model for Instituion-Industries Symbiosis

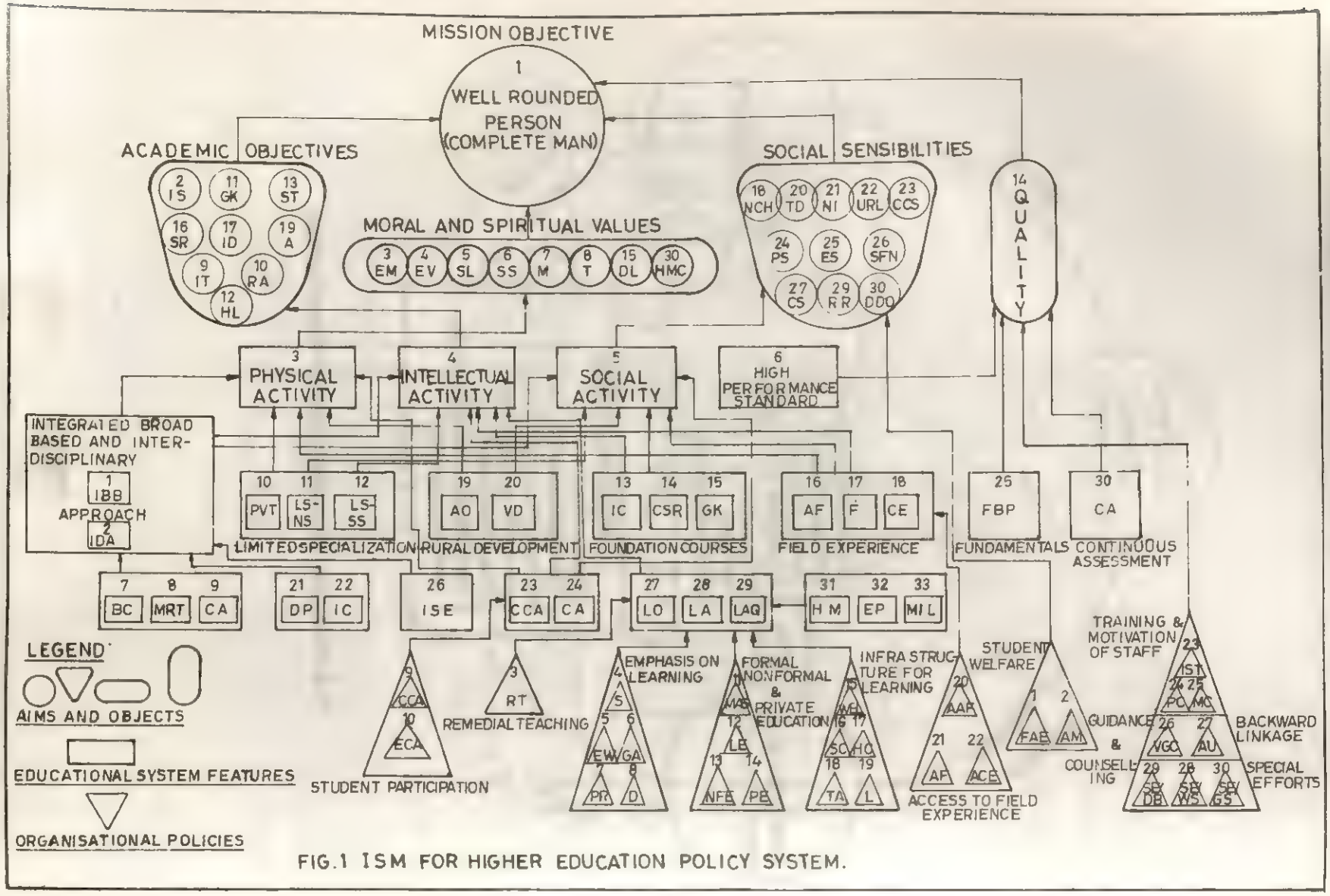

FIG.1 ISM FOR HIGHER EDUCATION POLICY SYSTEM.

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Technical Education in India : Some Issues and Suggestions

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Background

Globalization, privatization and liberal economy have thrown up challenges to all fields in India including Technical Education. Fierce competition with the international competitors in open market demands for quality everywhere and compel us to go for quality. Quality in User System is depends on the quality in Technical Education.

Thus there is urgent need for improvement in the quality of Technical Education that is being offered in India. Therefore, the challenges before us to take new initiative focusing attention on the following issue:

- Competency Based Curriculum
- Intensive Industry - Institute Interaction
- Resource Utilization
- Use of Teaching Methodologies and Learning Resources
- Examination Reforms
- Feedback Mechanism
- Teacher Training
- Autonomy and Course Flexibility
- Quality Education
- Cost - effective Education
- Need Assessment Mechanism
- Industry Participation in Technical Education
- Integrated approach in Technical Education System

The paper describes the issues related to quality in Technical Education as demanded by the user system and suggest some practicable solutions.

Issue No. 01

Competency Based Curriculum

The program run through various Technical Education patterns should be in tune with local employment requirements. Industry or employing agency normally expects competency in passouts. These competencies could be both intellectual and manual. Course would focus on development of competencies in students.

The types of skills required to satisfy the user are diversifying. The current products are getting obsolete in a very short span and user expects a flexible product. Skills needed to tune with changing requirements from the point of better opportunities to product and easy acceptability of the product in the market Non suitability of product from the view of quality and skill for industries resulted in increasing unemployment.

Suggestions

- Competency Based Curriculum Development

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- Involvement of Industry in curriculum development and helping students to develop competencies
- Periodic Assessment of competency development
- Progressive Assessment.

Issue No. 02

Intensive Industry - Institute Interaction

The complete isolation of the world of education from the world of work has made teaching learning in the technical education largely theoretical thereby making the technical institutions products often unemployable. The present liberalization in the industry and fiscal policies have led to a significant increase in the industrial avenue for technology development and upgradation. In this environment, it becomes extremely important to assess the technology trend according to their status in India. We can compete in the world market only by coordinating our know how, innovation, engineering and business skill with the self work force, which is possible only through Industry-Institute Symbiosis. It becomes therefore altogether essential to make this system in tune with rapidly changing technological needs of the world of work by constantly evaluating and updating of curriculum, optimum utilization of existing resources and introduction of new courses depending upon nature of work that the students are expected to undertake.

In this context present status, nature and degree of interaction is negligible. Very few industries come forward for the interaction required. Industries have to understand that they are not doing any favours to the institutes, but really helping themselves for self growth in the future. There has to be concrete interaction between the industry and institutions.

This calls for constant interaction with the institute and industry at various levels.

Suggestions

- Value awareness
- Formation of "Chamber of Technical Co-operation" at Institute level/Regional level and State Level. The representatives from Industry and Technical Institutes will be the members of this chamber.
- The Chamber of Commerce should recognize technical institutions as active collaborators for Research and Development activities and support technical institution to influence qualitative up-gradation of technical education.
- A steering group at various levels-National, State and Institution level needs to be formed with Members from academics, technical education, administrators and industrial units, who would initiate, review and monitor actions related to Industry Institute Interaction.
- Enhancing the scope of established professional bodies such as Institution of Engineers, Indian Society for Technical Education.

Issue No. 03

Resources Utilization

Introduction of newer and technologically updated machines are prime need in the globalized competitive market. The ultimate result is facing the problem of technological obsolescence before completion of expected life of the physical resources.

To bridge the gap and meeting industrial needs, futuristic approach is to be followed in curriculum design. On-going change in it and its implementation is very important. This kind of investment is not easily possible to any institute either government or to private.

On the other side the picture is very bad. The resources available (both physical and human) are not being utilized to fullest possible extent. There is scope for better utilization of these available resources.

To fulfill the need of curriculum the other institutes can be allowed to utilize these facilities. Though to and fro cost of students are there, it saves very huge amount of investment needed in these resources. The same amount can be used to bridge the gap between available and newer technology.

Spare capacity can be used for internal revenue generation. This results in double benefit: first amount collected can be used to buy/train new resources, second the machines can be maintained.

Suggestions

- Utilize industries as laboratories
- Exchange of resources (human and physical) among the institutions
- Spare capacity can be used for Internal Resource Generation.
- Design innovative experiments.

Issue No. 04

Use of Teaching Methodologies and Learning Resources

Teaching and Learning are two sides of the same coin We say that 'Lesson is not taught unless it is learnt by the student." In the context of the individual differences concerning attitude, ability, aptitude, interest and the nature of content to be delivered/communicated, it becomes essential to adopt suitable teaching strategies and learning resources for effective teaching-learning process.

Many researchers have proved that using media and methodologies in teaching learning process will facilitate in understanding the concepts. Even the concept of Schmeta-Assimilation, Accommodation (Jean Pegat) and the working principle of right and left brain has given emphasis on using media in teaching learning process.

In this backdrop, it is observed that very few efforts are being done by the institutes and teacher to make use of media. At present some teachers are adopting these principals of media environment but many more are reluctant to use these techniques for better Teaching-Learning process.

Suggestions

- Motivating teachers for developing and utilizing methodologies and media
- Establishing Learning Resource Utilization Centre in every institute
- Providing door facility to the teachers
- Providing facilities for using hardware in class room and laboratory
- Transparent system
- Preparing manual for each course (guideline document) for using teaching methods and media to suit the needs of clients and contents
- Conducting action researches

Issue No. 5

Examination -Reforms

Presently the institute is always busy in preparation for test, conducting test, administrating the test, studying for test. "There is too much of testing but too little good testing." The teaching is also become testing oriented and the basic purpose of testing is no more existing. The evaluation of teaching learning process is not in tune with the desired objectives (Knowledge, Skills and Attitude) and even in tune with taxonomic level as desired. This has resulted in measuring the ability of students in quantitative way rather than qualitative.

Suggestions

- The assessment must be in accordance with objectives of course/programmes
- The techniques used for evaluations must be in accordance with domains of learning and taxonomic level.
- Preparation of question banks
- Open book examination
- Continuous assessment of learning

Issue No. 06

Feed Back Mechanism

Any system that is designed to achieve certain goals, objectives need Feed-back-loop to ascertain that whether the desired objectives (degree and level) are achieved or not.

In context of technical education system there is immediate need to establish feedback mechanism at State/Regional/Institute/Department/Individual course level to ensure the nature and extent of achievement.

Suggestions

- Internal monitoring of curriculum implementation cell in each institute that will take care of feedback mechanism at department and institute level.
- Establishing Regional/State level 'monitoring Cell" to collect the feedback from institutes and industry on effective implementation of curriculum (as shown in fig. 1.1).

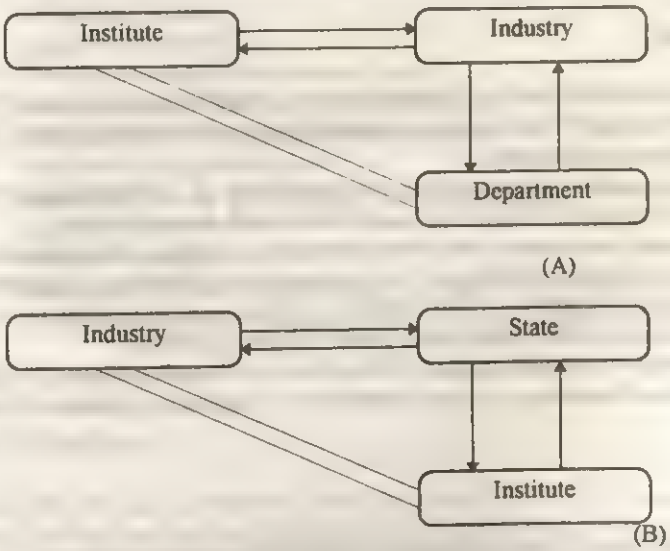

Figure 1.1

- Redesign of curriculum/curriculum implementation process
- Tracer Study

Issue No. 07

Teacher Training

The role of teacher has undergone a tremendous change from teaching to managerial responsibility. The technology is undergoing rapid changes and also emphasis has been change from teaching to learning. This calls for staff development to accept and promote innovations in institutions.

While designing the staff development programs many a times the needs of individual teacher and institutes are not taken care of and the programs are designed to fulfill the needs of the state. This aspect is an essential part of the training strategy, and designing the programs by considering the needs of individual teacher and institutes (which changes from institute to institute or teacher to teacher) will have better effect on the activities of the institute. Also the cost involved in teacher training program can be reduced if suitable/feasible and thoroughly trained human resources are available in the institutes.

The other aspect is utilization of trained resources. The institute should take care of utilizing the competency developed by the teachers for institutional development, and the duties and responsibilities of the institute should be allocated on the basis of the expertise gained by the teacher.

Suggestions

- Establishing HRD cell at each Institute/Region/State.
- Identification of training needs at the level of Individuals/Institute/Regional/State.
- Designing in-house and out-of-the-institutes programs based on best possibilities.
- Utilizing expertise gained by the teachers.

Issue No. 08

Autonomy and Course Flexibility

Autonomy and Course Flexibility have been identified as very crucial components under Quality Improvement in the World Bank Assisted Project on strengthening Polytechnic education system. This is essential for all patterns of Technical education too.

Almost all states had committed themselves to the introduction of Autonomy and Course Flexibility in selected Polytechnics during the Eighth Plan under World Bank Assisted Project.

In the case of autonomous institutions, the State reluctance to delegate administrative and financial autonomy to institutions weakened the design. The consequence is, institution is dependent on the state for obtaining resources. Moreover, staff transfer policies proved detrimental to the implementation of autonomy by bringing a fairly significant degree of faculty instability.

The governance and advisory structures adopted by institutions to manage autonomy are highly standard. In most cases, government domination in such infrastructure is leading to a situation of paucity of institutional stakeholders.

Suggestions

- More comprehensive scheme of autonomy rather than limited academic autonomy.
- Involving number of stakeholders.
- A constant watch on responsiveness of the institution towards user systems
- State policy support must go beyond providing academic Autonomy to institution.
- Policy support for course flexibility and multi point entry system.

Issue No. 09

Quality Education

Improving the Quality of Technical Education is a major concern of the all related to technical education. The term quality demands for Functional Utility of the product. The product of technical institute is a Student coming out of institute through 3/4/5 years of Educational Process. The quality will be judged through functional utility of the product to the user system.

There is always complaint from user about the Quality of Technical Education, their knowledge, skills and attitude. To bring in desired knowledge, skills and attitude, the educational process should be designed to deliver the desired output; which demands for quality input-process and output stages of education system.

With the participation of all stake holders of technical education system, in future the management of Government, Government aided and Private self financed institutions will result in a diversity of approach and interaction for education delivery. This will call for greater emphasis on ensuing standards and quality.

A quality conscious system would produce product who have the attribute of functional and social relevance, mental ability and physical dexterity, efficiency and reliability and above all the confidence and the capability to communicate effectively and exercise initiative, prove to be innovate and experiment with situations.

Suggestions

- Establishing State Level Directorate of Quality Assurance with necessary infrastructure
- Re-engineering of Educational Institute
- Building Educational/Academic Environment
- Attitudinal changes
- Leadership by individual
- Curriculum design and its periodic review
- Action research in curriculum implementation
- Focus on world of work (class room, laboratory)
- Entry level quality management
- Design the teaching strategies and selection/design of media suiting the needs of students/contents
- Employee training
- Design and implement quality manual for each Technical Institution/State
- State/Regional Quality Assurance Cell to monitor and control the activities of all institutions

Issue No. 10

Cost Effective Education

It is not enough to measure cost-effectivity in terms of so many educational institutions established or so many teachers appointed or so many students educated or so many buildings constructed against the cost invested in technical education. The available infrastructure and resources need to be utilized to it's fullest extent, further the curriculum design and implementation, developing knowledge, skills attributes and a strategies should be evolved in such way that the quality training is imparted to the students.

If the system of education (and educational process) gets modified from time to time, this progress will in turn develop cost-effective education.

Suggestions

- Utilization of resources
- Designing practical oriented laboratory work
- Internal resources generation
- Curriculum development suiting to needs of user system
- Designing curriculum implementation strategies
- Employment generation
- Performance of passouts.

Issue No. 11

Need Assessment Mechanism

Advancement in technology, mechanization and automation is taking place at amazingly faster rate. To suit the requirements of users systems the product from technical institutions should satisfy the needs of the user.

In many states, limited and conventional vocations are provided in technical/technician institutions. The stringent needs from industries have emerged to provide/change vocation frequently to suit the needs of end users. Presently existing vocations does not meet the fast changing needs of industries. The areas for different vocations are to be decided from time to time in an institution. Rhythm is to be achieved between user industry and vocation design system for betterment of society resulting ultimately in growth of the nation. The need assessment mechanism is a solution.

A mechanism at state level can be developed to assess the needs of the industry so as to accommodate these requirements in curriculum and to impart the education accordingly. In almost all states, this mechanism is existing, only need is to bridge the gap between industry and institute.

Suggestions

- Technology watching and manpower forecasting cells
- Matching the demands of technical manpower of industry with supply from institutes in terms of numbers, quality, necessary skills and desired attitudes to the fast changing needs.

Issue No. 12

Industry Participation in Technical Education

In the global wave of privatization and increasing financial stringency, privatization of education, establishment of private institutes in particular are being viewed as apex to the problem. The availability of highly skilled and relevant manpower in large numbers becomes pre-requisite for this growth to take place and sustained. Industries rely heavily on the passouts of technical institutions for their manpower need yet they do very little financially or otherwise to support Research and Development in this field. Setting up and expanding or even updating existing technical institutes require large investment particularly for emerging and high technology areas. For any government, it is not possible to invest so much in the education because of the high commitment of the State and Central Government to other priority areas for fulfilling social and national goals Setting up and expanding technical institutes requires large investment particularly for emerging and high technology areas. Industry initiative to start/adopt some institution to meet the demand of industrial sector has become essential.

In this context, it is essential that the private organization/society/industry sector should come forward to establish the technical institution.

Suggestions

- Private Industry/Organization can adopt/establish the technical institutes in new emerging areas.
- Private industry can act as a key element in running the existing government technical institutes to bring excellence in education. The part of the education cost may suitably be reimbursed by them.
- These institutions should be autonomous and they should build their own credit pattern.

Issue No. 13

Integrated Approach in Technical Education System

The expectations from the products of technical education system and market needs are diversifying and changing day by day. The user market needs technically skilled products passouts) from technical institutions, the needs of industry and society are becoming widely diversified and multi-disciplinary.

Presently, the Vocational Education, Technician Education and Technical Education are being imparted to the students in general in isolation. The only relationship in these three steams is the rare and remote possibility of vertical mobility from one to the other, especially from technician education and technical education.

In almost all the institutes, centrally designed rigid pattern of curriculum is implemented and its revision is a very slow process which creates difficulties in meeting the diversified needs of the users. Segmenting total technical education in different levels such as Minimum Competency Vocational Course, Industrial Training Institute, Diploma, Degree has relevance to some extent but when effectiveness of imparting education is to be considered then provision of studies of different levels under the same room and integrating the levels with approach of flexibility will prove more effective.

Suggestions

- Autonomous Institute
- Modular Courses with Flexibility
- Integration levels i.e. in - built continuity in vocational, technician and technology education and industry occupation (as shown in fig. 1.2 page 842)
- Promoting internship through suitable modules
- Provide modules such that programs become terminating to suit the need of industry or suits vertical mobility to higher level program.

Conclusion

The developments in technology today led to reorientation of the *Technical Education* system. It is more important to create an academic environment among the stakeholders. There is also need of private professional organizations participation in Technical Education in emerging areas.

The analysis of the present status of Globalization, Liberalization of market created the competition in all walks of life and hence *Quality* in Technical Education is of major concern to all related with Technical Education. This calls for Intensive Industry Institute Interaction, competency based curriculum and matching of Evaluation with curriculum objectives. There have always been such issues of Technical Education but these have to be resolved so that the *Product of Technical Institute* will be accepted by the user system for sustainable development of country.

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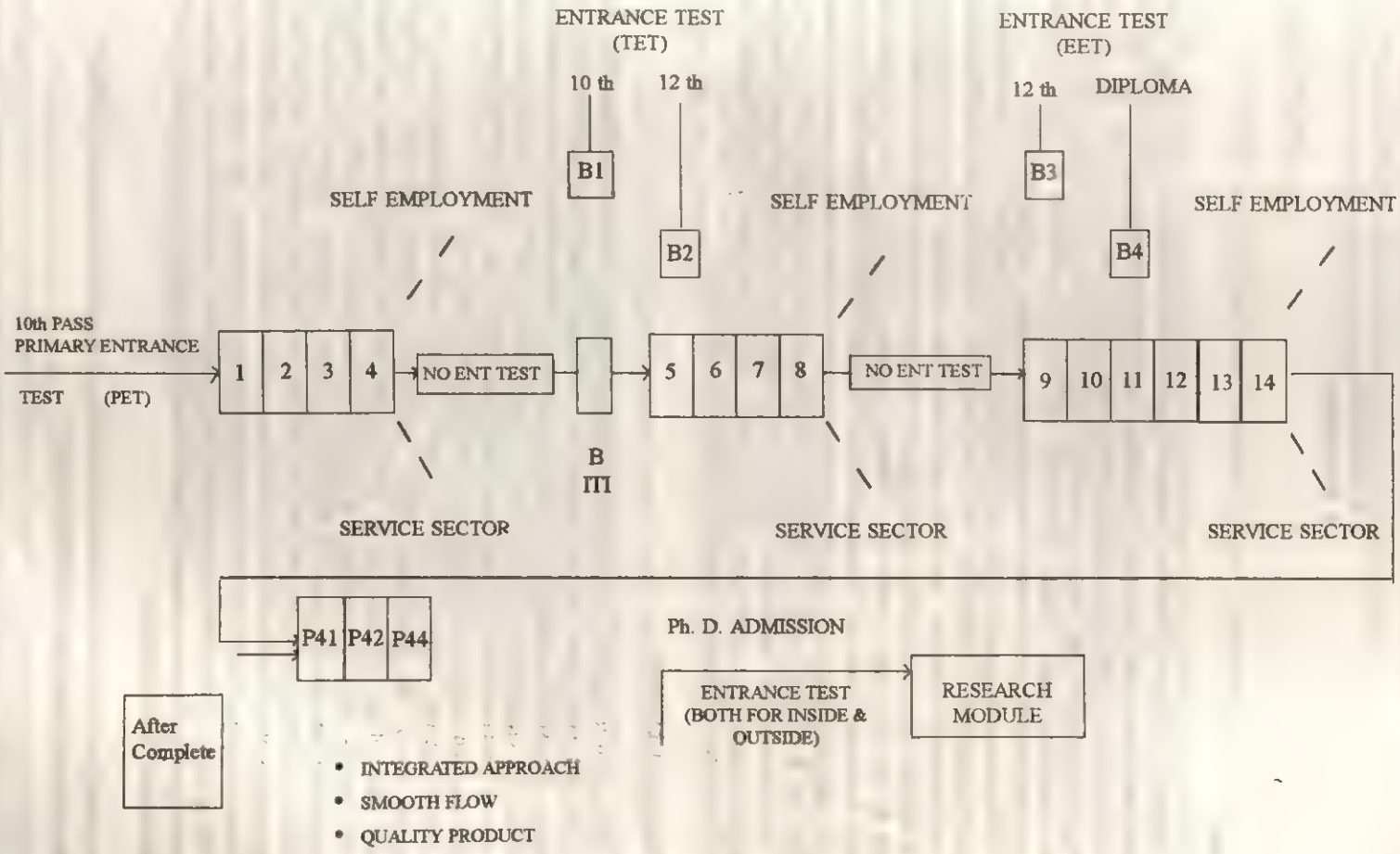

NOTE: BITI Module may be spread over 1,2,3,4 if academicaly feasible to high achievers.

FIGURE 1.2

Cost of Engineering Education - A Case Study

P. Muthiyan[1]
K. Selvanathan[2]

Introduction

Financing of Higher Education, especially professional education by the Central and State Governments has become a subject matter of discussion in the present context of the liberalization of the Indian economy. The World Bank studies (World Bank, 1994) also reveal that due to financial constraints, the governments are forced to search for alternative ways of financing. Increasing student tuition fees, generating funds through institutional and industry interaction in R and D works and permitting private investment, are some of the alternatives to mobilize additional resources

Of the above, increase in tuition fee is inevitable since the tuition fee in government funded engineering institutions has remained low for quite a long time. Though the educational administrators agree on the increase of tuition fee, they differ on the percentage of increase. The other dimension of the problem is fixation of fees in the self financing engineering colleges. In the absence of rational method of fee fixation by the All India Council for Technical Education (AICTE), which regulates technical education in the country, some self financing colleges have been levying exorbitant fees in an arbitrary manner. The Supreme Court of India had to intervene and direct the Government to evolve a system to fix a fair tuition fee, keeping in mind the interest of the students, State Government and the self financing colleges. In this context, an independent study on the estimation of cost of establishing an engineering college and cost aspects in a Government funded college would throw more light to workout a rational method to fix the fees and this study makes an attempt in this direction.

The Problem and Objectives

With a view to maintain the quality of engineering education, the All India Council for Technical Education has laid down certain norms indicating the minimum infrastructure and laboratory facilities and teaching staff position in establishing an engineering college. The problem is how to estimate the cost of establishing an engineering college as per the stipulations of AICTE. Classifying and estimating various types of costs especially economic costs though seemingly simple it is not so. Further there are no independent research studies on institutional cost of engineering education.

Research studies (Tilak, 1996) have revealed that the tuition fee constitutes only 1.5% of the recurring expenses in the government funded engineering institutions in India. The high power committee's report of the AICTE in the year 1993 has estimated per student recurring cost to be between Rs. 15,200/- and Rs. 20,000/- irrespective of the type of management of the college and recommended increase in tuition fees upto the extent of 20% of the recurring expenses. Recently, the AICTE, with a view to evolve a rational system, decided that the self-financing colleges should fix the fees based on the recurring expenses only. But it is felt that at least some portion of capital cost may be recovered especially in self-financing college, to attract private investment and make it profitable. This study desires to discuss the problem of quantum of increasing the tuition fees in government funded institutions, keeping in mind the payment capacity of parents, especially those belonging to the weaker sections of society. In brief, this study discusses the following issues:

- What should be the level of investment in establishing a degree level engineering college?
- What are the different types of institutional costs?

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- What portion of the cost to be charged as fees?
- What should be the increase in fees in government funded colleges?
- What is the level of subsidy by the government?

Certain Propositions

The following are the specific propositions to be tested by this study:

- The proportion of capital cost is higher than the variable cost at a point of time and gets reduced over a period of time.
- The average capital cost varies inversely with enrollment, whreas the average recurring cost varies directly with enrollment. The overall average cost is the direct function of enrollment.
- The proportion of income by way of tuition fee is negligible compared to other sources in government funded colleges.
- The extent of subsidy by government is significant.
- The increase of fees is directly related to the payment capacity of parents.

Methodology and Data

a) **Classification and Estimation of Cost**

There are two main aspects of cost analysis in education. The first relates to definition and measurement of various types of costs and the second is about the cost function i.e. variation of cost with the level of output. This study analyses the first aspect only.

Classification and estimation of cost depends much on the type of educational investment decision. The study concentrates on the analysis of institutional cost at current prices rather than private cost.

Generally, in accounting terms, costs are measured by monetary expenditures. However, financial costs seldom reflect the real cost. Economists include opportunity cost also in working out the overall cost. Normally institutional costs are classified as fixed and variable cost. But due to measurement problems, educational costs are better termed as capital and recurring costs. The capital costs include costs on buildings, furniture, laboratory equipments and materials and library books. Recurring, may include salary and wages, maintenance of buildings, equipments, vehicles and furniture, purchase of laboratory consumables, administrative, water and electricity and miscellaneous.

Aggregating capital cost and recurring cost to find out the total cost for the purpose of fee fixation may be misleading. It is difficult to combine stock of capital and flow of services that are consumed. As a solution to this, economists suggest annualisation of capital cost by using a discount rate that represent interest foregone i.e. opportunity cost (George Psacharopoulos and Woodhall 1985). Different discount rates are used. As a short cut method, original cost of capital can simply be multiplied by the discount rate and the annual depreciation rate as 10% for calculation of yearly capital cost and this study uses the following formula:

Annual Capital Cost = $C\{r(1+r)n\}/[(1+r)n-1]$
Where r = rate of interest, c = original cost of capital
n = assumed life of capital

b) **Sample**

To work out the cost of establishing a degree level engineering institution with a yearly intake of 240 students, the AICTE norms have been taken into account. In order to estimate the actual cost of an engineering college funded by the Government, a 13 year old college located in the outskirts of Pondicherry town has been selected. The reason for selecting this college as a sample is that this college

has been developed on the norms and standards laid down by the All India Council for Technical Education. Currently it is conducting 6 degree level and 4 post graduate level courses with a total yearly intake of 410 students. The overall student strength is 1300. Data on yearly costs, tuition fees, yearly income of the parents have been collected from the applications of first year students admitted in the B. Tech. course from 1993-94 to 1996-97.

Analysis and Discussion

A) **Cost of Establishing an Engineering College**

Unlike investing in a factory, educational investment can be phased to 4 to 5 years. To work out the total cost of starting an engineering college, it is assumed that the college offers only 4 under graduate programmes i.e. Civil, Mechanical, Electronics & Communication and Computer Science and Engineering with an intake of 60 per programme, and the college is built in a small town like Pondicherry. In such a case, the college as per AICTE norms should have 41 acres of land, 24750 square meters of building space, 5333 volumes of books, 12 journals, sufficient laboratory equipments and other adequate facilities like furniture, transport facilities, etc. The staff strength should consist of 1 Principal, 7 Professors, 14 Assistant Professors, 33 Lecturers and 121 Supporting Staff at various levels.

The Table-1 (page 847) reveals that it would take approximately 12.7 Crores to start an engineering college with 4 degree programmes with an intake of 60 students per programme. If the college is located in a big city, the total cost may go up to 15 Crores because of the land cost. An independent study during 1996 by Rajagopalan reveals that it would cost between 12 to 15 Crores approximately.

The capital cost would form a major portion compared to recurring cost. The capital cost is to be spread out to 4 to 5 years and it would take a minimum of 4 years for a college to become a full fledged one. Approximately the average yearly investment may be 3 Crores. In the first year of functioning the total student strength would be only 240 and the facilities may be inadequate. However the college is expected to have a required staff strength, laboratory facilities and other general utilities in the fourth year atleast when the total student strength would be 960. For a full fledged college with a total strength of 960 the average recurring cost per student may be Rs. 12,563/- at current prices. If the annualization of capital cost, assuming the life span of buildings as 50 years and laboratory equipments as 10 years and 10% depreciation rate is added then the average cost would come to Rs. 23,141/-.

In contrast to the above the Maharashtra Government had fixed Rs. 4,700/- for merit seats and Rs. 32,000/- for payment seats. This was arrived at based on the estimated average per student cost about Rs.20,000/-. The Government ofTamil Nadu has now proposed to fix the fees for self-financed engineering colleges for the year 1997-98 as Rs. 7,000/- for merit seats and Rs. 39,000/- for payment seats. Then the average tuition fee both for payment and merit seats workout to Rs. 23,000/-. The fees fixed by Tamil Nadu Government seems to be marginally higher even a portion of capital cost is added. The present method of fixing fees for merit seat and payment seat uniformly for all self-financing colleges may not be proper as all the colleges may not have adequate staff, labs and building facilities. As an alternative, colleges may be grouped into various categories depending upon the level of infrastructure, staff and other facilities and fees could be worked out accordingly.

Apart from the problem of fixing fees, the related problem of arriving at the rate of annual increase in fees per student needs to be attended. Since the salary of staff increases by 10% per year and the general rate of inflation is around 6%, it is suggested that annual fees increase may be 8% to 9% or a flat rate of 5% may be fixed.

Table 1

Cost of Establishing a Degree Level Engineering Institution with an Intake of 240 Students per year

	Capital Cost (In Lakhs)		Recurring Cost (In Lakhs)	
1.	41 acres of land at of Rs.10/- per sq.feet	180.40	Salary for 55 Teaching staff at the minimum of AICTE Basic Pay plus Dearness Allowance etc.	54.56
2.	Building space of 24750 (Plinth area) sq.m. at the cost of Rs.3,000 per sq.mt. as per PWD norms of Government of Pondicherry	742.50	Salary and wage for 121 Non-teaching staff as stipulated by AICTE with minimum basic of the scale with Dearness Allowance, etc.	53.55
3.	Furniture for class/Lecturer rooms two buses, 1 car and other general materials required for labs.	30.50	Maintenance of buildings equipments, vehicles, furniture, etc.	4.00
4.	Library books of 3000 volumes of text book at the rate of Rs.500-750 per text and 2333 volumes of reference book at the cost of Rs.500-2000 per book plus 12 journals (6 Indian and 6 foreign)	50.15	Lab consumables	2.50
5.	Laboratories with standard equipments as per AICTE norms in four disciplines viz., Civil, Mechanical Electronics & communication and computer Science Engineering.	148.00	Administrative expenses-stationery, printing of applications, advertisements, etc.	4.00
			Water and Electricity charges	1.00
			Miscellaneous	1.00
	Total	1151.55		120.61
	Annualisation of capital cost of building and laboratory equipments			101.56

Average recurring cost per student = Rs.12,563.00
Average annualised capital cost per student = Rs.10,578.00
Average cost per student = Rs. 23,141.00

b) **Expenditure Pattern of a Government Funded Engineering College**

A perusal of expenditure pattern as brought out at Table 2 (on next page) for the years 1984-85 to 1996-97 (for 1995-96 data is not available) reveals that the 12 year average capital cost works out to be 65.22% and average recurring cost forms 34.89% of the total expenditure. Further the proportion of yearly recurring expenditure has increased over the years compared to capital cost. This trend confirms the proposition that the proportion of capital expenditure gets reduced over a period of time.

Table II

Expenditur Pattern

Year	Capital Expenditure		Recurring Expenditure		Total Exp. (in lakhs)
	(in lakahs)	(% to total exp.	(in lakhs)	(% to total exp.	
1984-85	1.490	48.690	1.570	51.310	3.060
1985-86	4.800	83.700	10.670	61.300	65.470
1986-87	221.370	89.160	26.920	10.840	248.290
1987-88	253 210	83 920	48 500	16 080	301.710
1988-89	189.420	74.320	65.460	25.680	254 880
1989-90	263 840	75.700	84.680	24 300	348.520
1990-91	263.980	72 120	102 060	27.880	366.040
1991-92	236.850	64.010	133.160	35.990	370 010
1992-93	294.810	65.060	158.350	34 940	453 160
1993-94	177.880	50.830	172.100	49 170	349.980
1994-95	94.010	33.040	190 492	66.960	284.502
1996-97	196 630	42.090	270.570	57.910	467.200
Overall Average %		65.220		34.780	

Table III(a)

Components of Capital Cost in % to Total Capital Cost

Year	Lab. & other equip.	Furniture	Library	Vehicle	Building	Other
1984-85	10.74	22.15	0.00	67.11	0.00	0.00
1985-86	24.43	05.03	9.80	02.03	58.43	0.00
1986-87	19.84	02.29	2.51	05.94	67 96	1.45
1987-88	21.07	04 27	2.59	00.00	69.38	2.69
1988-89	24 44	01.73	3 92	00 58	64.73	4.60
1989-90	22.26	01.62	0.03	00.47	71.84	3.78
1990-91	19.41	00.57	1.72	00.89	75.16	2.25
1991-92	12.43	01.95	6.54	02 42	70.94	5.72
1992-93	27.38	01.76	3.55	00.59	65.87	0.85
1993-94	32.62	01.87	6.85	00.94	54 66	2.96
1994-95	30.64	01.27	8.06	00.02	58.82	0.65
1996-97	36.01	01.55	7.52	00.00	51.93	2.99
Overall Average	23.44	03.86	4.48	06.75	59.14	2.33

Table III(b)

Components of Recurring Cost in % to Total Recurring Cost

Year	Salary & Allowance	Main-tenance	Laboratory Consumables	Admini-strative	Water & Elect.	Others
1984-85	42.03	6.37	0.00	42.68	0.00	14.65
1985-86	65.51	2.08	0.83	20.61	0.00	10.97
1986-87	73.04	4.38	6.28	10.80	0.00	05.50
1987-88	75.77	3.77	6.56	09.95	0.03	03.92
1988-89	73.63	4.37	7.82	08.65	1.47	04.06
1989-90	74.11	6.60	4.42	09.40	2.81	02.85
1990-91	77.06	8.22	1.96	10.02	0.98	01.56
1991-92	67.57	6.34	2.52	14.84	6.38	02.35
1992-93	67.43	6.95	1.42	19.48	2.55	02.17
1993-94	76.54	7.59	1.80	06.90	5.64	01.53
1994-95	82.23	5.06	2.28	07.70	0.56	02.17
1996-97	81.00	4.30	1.10	12.21	0.87	01.52
Overall Average	71.24	5.42	2.97	14.34	1.69	04.34

It can be observed from the data given in Table-III(a) and (b) that among the components of recurring expenditure, salary and wages form the major portion and on the average, it works out to be 71.24% of recurring cost. This confirms the statement that salary and wages is the single most component of recurring cost in educational institutions. Among the components of capital cost, though building cost is substantial, the percentage gets reduced over the years as building activities may slow down over the years.

The data on total cost, average capital cost and recurring cost per student over a period of time in the college taken for the study exhibited in Table IV (pg. 853) & graph (pg. 855) indicate that the total cost per student per year at current prices changes radically over the years. This may be due to low salary component an account of non appointment of Professors, Assistant Professors category due to a court case. The capital cost per student declines marginally as the students strength increases, whereas the recurring cost per student increases in the initial years and then remains stable from 1993-94 onwards, though student strength has increased considerably. This may be due to the reason stated above.

Table V (pg. 853) reveals that receipts by way of tuition fee and sale of applications on the average come to only 8.25%. The major source is grants-in-aid from the Government of Pondicherry. Though the college is earning through R and D activities, it is very meagre.

Level of Tuition Fee and Family Income

Increase of tuition fee especially in a Government funded institution should be done taking into consideration the capacity of the parents also, to bear the load. In order to analyze this fact, the details of caste, occupation of the parent and annual family income were gathered from the applications of the first year students for 4 years from 1993-94 to 1996-97. Yearwise classification of students family income (Table VI pg. 854) based on caste, occupation exhibits that nearly 52.5% students belong to Backward Class, 41.7% of the students' parents are holding white collar middle level jobs and 62.1% of parents earn up to 50 thousand per year. Parents whose income is upto 50 thousand belong to lower economic status or middle class and form the majority. Therefore, any increase in the tuition fee would pinch them substantially. Income distribution by caste and occupation reveals (i) the family income of other caste students are substantially higher than Scheduled Caste/Tribe (SC/ST) and Backward Caste (BC) families (ii) the family income of parents belonging to BC and SC/ST are almost same. This data does not lend support to common belief that SC students belong to low income families. Most of the parents of SC

students are holding middle level white collar jobs. Contrarily it lends support to the apprehension that poor and deserving SC students especially from rural areas do not get admission in professional colleges.

Extent of Subsidy

With the above said background of students, the yearly tuition fee is compared with the per student recurring cost, to estimate the extent of Government subsidy. The details for 11 years reveal (Table VII pg. 855) that upto the year 1992-93 the level of subsidy has been increasing marginally and thereafter falling This is primarily due to substantial increase in tuition fee in the year 1993-94 from Rs.901/- to Rs.3,396/-. In spite of the increase in tuition fee, government aid forms the major portion. Realizing this, the college has now increase the tuition fee further to Rs. 7,000/- from the academic year 1997-98.

To analyze the payment capacity, the proportion of tuition fee collected from the students to the yearly family income, for four years 1993-94 to 1996-97 was worked out (Table VIII pg. 856). The percentage for the entire sample are 8.5, 7.4, 7, 5.2 for the respective years The percentage is nominal and is declining. The proportion of tuition fee based on the family income classification reveals that except for the students falling in the income bracket of 25 and less than 25 thousand, it is only nominal for other income groups. Any increase in tuition fee would affect substantially the lower income group only. Suppose the entire recurring cost is recovered from the students, it would form on the average 54.7, 44.9, 43.1 and 31.1 percentages of the family income for the year 1993-94 to 1996-97 respectively As per income classification for the lower scale of 25 and less than 25 thousand, the average recurring expenditure will be more than the family income i e. 139.5%. Therefore, the suggestion of recovering the entire recurring cost from the low income students is obviously impossible. As an alternative the percentage of recovery may be between 20 to 50 of the recurring cost At the same time, to reduce the regressive effect of higher fees on the weaker sections, government and public institutions may provide educational loans at low interest and scholarships.

In the backdrop of this, the question is not about increasing the tuition fees, rather it is about the amount it should be increased to. The AICTE's High Power Committee has recommended 20% of the recurring cost may be levied as tuition fee in general Then the recurring cost forms the basis for fixation. but this basis has its own limitations These are issues like (i) who should estimate the recurring cost-should it be the government or the individual colleges? (ii) What costs should constitute recurring cost and such other related issues. For better monitoring and control, the government should estimate the recurring cost both for self financing and government funded colleges, as is being done now In addition to recurring cost, a portion of capital cost must be taken A rational system has to be evolved, as pointed out by the Supreme Court of India, which will protect the interest of the students, colleges and the society.

Summary of the Out-come of the Study

1) To establish a full fledged engineering college with an annual intake of 260 students for 4 branches it would cost 12 to 15 Crores approximately. The cost, especially the capital cost, would have to be spread out over a period of 5 years.
2) The present method of fixing tuition fees for self financing colleges uniformly requires modification based on the level of staff and facilities
3) The average capital cost exhibits a declining trend as expected However, the behaviour of average recurring cost reveals a mixed trend. The salary, wages and building costs form a major portion in the recurring and capital cost respectively.
4) The proportion of tuition fee collected in the college taken for the study with respect to recurring cost is only marginal except for the students falling in the income bracket of upto Rs. 25,000 per year, therefore there is further scope to increase the fees.
5) The per student tuition fee forms only a negligible portion compared to the level of government subsidy provided for each student.
6) The yearly increase in tuition fee in government funded colleges should be based on the level of recurring expenses. The tuition fee should form at least 20% of recurring cost and may even go up to 50% over a period of 10 years.

Certain Policy Considerations

Since it would require an amount of 12 to 15 Crores approximately, spreading out over a period of 5 years, it is justified that adequate returns are assured in the self financing colleges for the investors. However, this may be with the condition that the college possesses required infrastructural facilities and qualified staff as stipulated by AICTE. In reality, it is doubtful to say whether all self-financing colleges provide facilities as per AICTE norms. Therefore, it is suggested that a college council consisting of college management, government and AICTE representatives may be formed in each college to facilitate better monitoring. The time has come now for the administrators to device a method of fixing tuition fee based on the level of facilities and quality of staff in each college, instead of fixing a uniform fee for all self-financing colleges Operationally it is possible by rating each college by seeking the services of board of Accreditation of India for engineering. The colleges can be grouped into various categories based on the level of index, and tuition fee may be fixed accordingly.

As an alternative to self-financing colleges why not the Government establish engineering colleges in collaboration with private investors or industrial organizations as a joint-venture. Taking into consideration the enormous problems to be faced by the Government in regulating the functioning of self-financing colleges, it is suggested that the Government itself can start new colleges with the existing discriminative pricing method as followed in self-financing colleges. It is relevant to note here that in USA large engineering colleges are state funded while private colleges are small The above issues are necessarily to be discussed and policies worked out as it is feared that quality of engineering education might be waterdown.

Conclusion

Some of the findings of this study are tentative. But this study may prompt others to go deeper in to these issues and suggest ways and means of arriving at a rational method of fixing tuition fees in engineering education.

Acknowledgement

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Table IV

Per Student Yearly Cost in Rupees at Current Prices

Year	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1996-97
Average Capital Cost	45666	81198	60288	31570	43609	42923	38201	44001	22516	10330	15102
Average Recurring Cost	8891	9970	11547	10851	13996	16595	21477	23634	21784	20933	20781
Total Average Cost	54557	91968	71835	42481	57605	59518	59678	67635	44300	31263	35883
No. of Students	120	270	420	600	605	615	620	670	790	910	1302

Table V

Details of Receipts in Percentage

Year	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97
Grant-in-aid	99.98	97.16	95.63	94.81	78.32	76.41	88.06	95.02	89.87	-	59.65	81.30	73.37
Tuition Fees	0.02	0.97	0.43	0.44	1.66	2.33	1.94	2.37	2.53	50.54	21.08	10.87	12.12
Others	-	1.86	3.08	4.43	19.59	21.24	10.00	2.60	7.59	49.45	19.27	7.83	14.51
Grant-in-aid (MHRD)	-	-	0.12	0.15	0.41	-	-	-	-	-	-	-	-

Table VI

Classification of Students in Relation to Caste, Occupation of Parents and Income

Year	Caste-wise			Occupation							Yearly slab-wise income					Average	Overall
	1	2	3	1	2	3	4	5	6	7	01-25	26-50	51-75	76-100	101-125	125 above	
1. Income	51995	35329	34288	18524	39149	16861	29500	74614	50500	43090	15088	39074	64806	88185	112860	150000	39825
2. No of Students	50	91	36	24	78	18	10	28	6	13	67	63	28	17	1	1	177
3. % of Students 1994-95	28.2	51.4	20.3	13.5	44.0	10.1	5.6	15.8	3.3	7.3	37.8	35 5	15.8	9.6	0.5	0.5	--
1. Income	53527	43431	43589	18129	42791	15311	34000	87298	73160	51055	14389	38385	62580	91081	115320	203222	46616
2. No. of Students	67	114	33	27	108	9	15	34	8	13	56	91	38	20	4	5	214
3. % of Students 1995-96	31.3	53.2	15.4	12.6	50.4	4.2	7.0	15.8	3 7	6.0	26 1	42.5	17.7	9 3	1.8	2 3	--
1. Income	69977	41906	41193	20227	48833	10318	28667	89408	58600	20036	14866	40607	62699	89688	115143	172800	49627
2. No of Students	74	145	46	48	98	11	24	68	5	11	79	83	52	32	14	5	265
3. % of Students 1996-97	27.3	54.7	17.3	18.1	36.9	4.1	9.0	25.6	1.8	4.1	29 8	31 3	19 6	12.0	5.2	1.8	--
1. Income	80926	61738	56188	23034	52027	29400	66056	100858	97499	31545	16734	40363	64811	91494	116355	174656	66895
2 No. of Students	78	125	42	25	87	10	18	87	7	11	48	60	53	44	22	18	--
3. % of Students	31.8	51.0	17.1	10.2	35 5	4.0	7 3	38.5	2.8	4.4	21.4	24.4	21.6	17.9	8.9	7 3	--
Year of Average Percentage	29 6	52.5	17.5	13.6	41.7	5.6	7 2	23.1	4.2	5.4	28.7	33.4	18 4	12.2	4 1	2 9	--

Case : 1. Other Caste
2. Backward class
3. Scheduled Caste/Tribe

Occupation : 1. Worker
2. Middle class white collar
3. Agriculture
4. Business
5. Executive and Managerial
6. Professional
7. Others

Table VII

Yearly Fees and Recurring Cost Per Student - At Current Prices in Rupees

Year	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96
Average Recurring Cost	8891	9970	11547	10851	13996	16575	21477	23634	21784	20933	20781
Yearly fees per student	670	670	705	710	860	860	891	901	3396	3471	3471
Extent of Subsidy	8221	9300	10842	10141	13135	15734	20586	22733	18388	17462	17310
% of subsidy to recurring cost	92.2	93.3	93.9	93.5	93.9	94.0	95.5	96.2	84.4	83.4	83.3

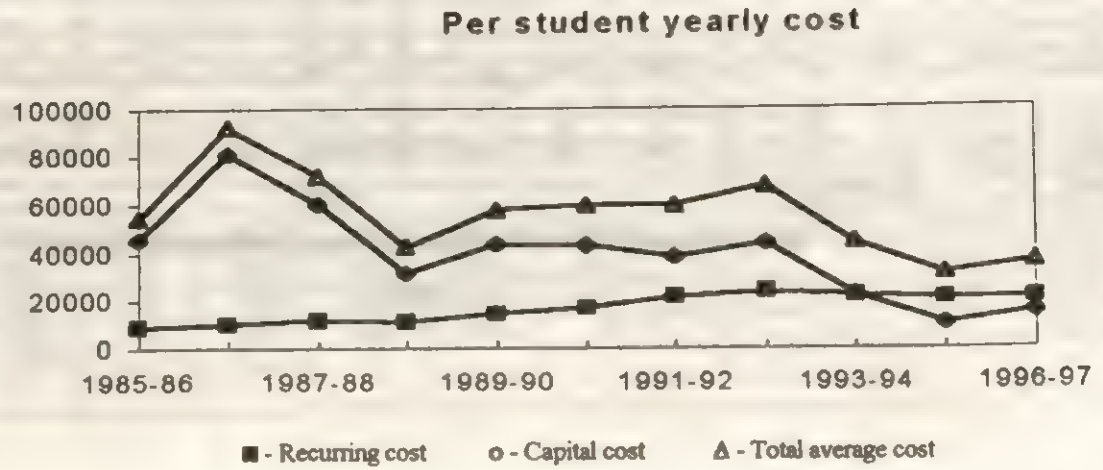

Table VIII(a)

Ratio of Tuition Fees to Family Income

Year	Caste-wise			Occupation							Yearly slab-wise income					Average	Overall
	1	2	3	1	2	3	4	5	6	7	01-25	26-50	51-75	76-100	101-125	125 above	
1993-94	0.065	0 096	0.099	0 183	0 087	0.201	0 115	0 046	0 067	0 079	0 225	0 087	0 052	0 039	0 030	0.023	0.085
1994-95	0 065	0.080	0.080	0 191	0 081	0 227	0 102	0.040	0.047	0.068	0 241	0 090	0 055	0 038	0 030	0 017	0 074
1995-96	0.050	0.083	0.084	0 172	0.071	0.336	0 121	0.039	0.059	0.173	0 233	0 085	0 055	0 039	0 030	0 020	0 070
1996-97	0.043	0 056	0 062	0.151	0 067	0.118	0 053	0 034	0.036	0 110	0 207	0.086	0 054	0 038	0 030	0.020	0 052
Over all Average	0.056	0 079	0.081	0.174	0.076	0.220	0.098	0 040	0 052	0 108	0 227	0.087	0 054	0 039	0 030	0.020	0.070

Table VIII(b)

Ratio of Average Recurring Cost per Student to Annual Income

Year	Caste-wise			Occupation							Yearly slab-wise income					Average	Overall
	1	2	3	1	2	3	4	5	6	7	01-25	26-50	51-75	76-100	101-125	125 above	
1993-94	0.419	0 617	0 635	1 176	0 556	1.292	0.738	0 292	0 431	0 506	1 444	0.558	0 336	0 247	0 193	0.145	0 547
1994-95	0 391	0.482	0 480	1.155	0 489	1.367	0 616	0.240	0.286	0.410	1 455	0.545	0 335	0 230	0 182	0.103	0.449
1995-96	0.305	0 510	0.519	1 057	0 438	2 072	0 746	0 239	0 365	1 067	1 438	0.526	0 341	0 238	0 186	0 124	0 431
1996-97	0.257	0.337	0.370	0.902	0.399	0.707	0.315	0 206	0.213	0 659	1 242	0.515	0.321	0 227	0 179	0.119	0 311
Over all Average	0.343	0.487	0.501	1.073	0.471	1.360	0.604	0 244	0.324	0.661	1 395	0.536	0.333	0 236	0 185	0.123	0 435

Reforms in Technical Teaching Learning Process

P.A. Kulkarni[1]

Present Situation

At present the initiative for the teaching learning process in engineering education is left to the teachers. The teacher addresses the students in the class room or the laboratory class as the case may be on certain topics and this sets the targets for the students' study for understanding of the subject matter. Inevitably the students develop a tendency to study only the aspects introduced to them by the teacher and they are not required to do anything further. The examination systems prevalent today also do not require anything more than whatever the teacher has taught. The expectations of the Universities from the students have also progressively declined in quality and it is seen that almost all the examinees pass with first-class to their credit.

In addition, the more and more precise description of the subject to be studied has further limited the role of the teachers as well as the students. This is easily seen from the fact that the students need hardly to explore anything beyond written word in the syllabus.

The present system as outlined above suffers from the following topics:

1. The students study any subject only with a view to understand whatever a tgeacher has taught and there is no room for exploration of the finer points of any topic.
2. The system defines the limit of examination pattern - the students prepare only with a view to get through the same. Many industries after recruiting graduate engineers have to put them through a training process which also includes some basic concepts.
3. The primary aim of any educational system at the graduation level should be to develop the students' ability to learn by themselves. Learning to learn which is required at almost all stages in the working life of an engineer is never really tested by the examination system.
4. The more and more precise wording of the syllabus is not conducive for preparing the students to tackle intricate problems. Most of the syllabus making bodies consist mainly of teachers who try to perpetuate the system.

The present system is certainly of some use in the teaching of the basic or core subjects where there is limited scope for bringing in the concept of learning to learn. But it is felt that for application oriented subjects which are prescribed for II, III and IV year of graduation studies, learning to learn can certainly be brought in.

Some Suggestions For

If the ability to learn is to be inculcated in the students, they have to be made to learn a major portion of the curriculum by themselves. The syllabus prescribed should not be so limited as it is today, some flexibility has to be introduced in the interest of sharpening the ability to learn. In this context a trial on a small scale has been conducted by the author over the last three years. The students are intimated in advance the topic to be discussed at the next sitting and they are instructed to refer to the books and come prepared for holding discussions. During the next session there is no formal stereo type teaching of the topic but the discussion is initiated by the teacher on various aspects covered by the topic. Participation of every student is ensured and this way the students who have already made their own attempts in understanding the topic get their thinking refined by question and answer session. Very often, a question posed to a student is also asked to be answered by many more in the class room, this way the students get to know the different ways in which different students express themselves on the topic. If there are some finer points which are not understood by the students through self study, only these are explained by the teacher starting from the basic concept.

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Many often a student or a small group of students is given the task of presenting to other students information about a topic including theoretical analysis connected with it to the whole class. The other students as well as the teacher then ask questions on one or more aspects of the topic being presented and thereby elicit further detailed information from the students. The class as a whole is found to be significantly better than the others who are going through the standard method of teaching and learning in tackling problems, whether it is simple problem solving or the application of the knowledge in design or improvements in design of real life applications. Simultaneously better communication will also receive a significant boost. Various assignments are given to the students and their work is discussed in the class so as to bring to the notice of all, short comings if any in the solution of the assignment as carried out by the students.

The above trial was conducted on a class whose strength was about 15 and was found to be very effective. A similar experiment with a class of 60 students was also conducted by the author and the results though not as good as those with the small class showed significant improvement in a large number of students participating in the experiment. similar methods are known to be employed in some institutions of higher learning both in India and abroad and the products of such systems have been known to excel at their workplace.

Suggested Strategy

1. The present teaching learning process should be drastically modified atleast for II, III and IV year of graduation studies in engineering. The syllabus prescribed for these classes should be quite flexible to encourage allied studies related to the subject.
2. The students must be given assignment based on various topics in the syllabus quite frequently. It is suggested that on an average one assignment per week in each subject is suggested.
3. These assignments should be examined by the teacher and short comings if any be brought to the notice of the students.
4. If necessary a few lecture sessions may be planned only to highlight finer points on different topics.
5. The students either individually or in groups be asked to make their presentation about some topics in the syllabus and the teachers should guide them wherever necessary.
6. Even in case of laboratory classes the tasks of conducting various experiments should be left to the students. At each stage of the experimentation the students' preparation should be checked by the teacher and permission for undertaking the next stage be given. The teachers and the laboratory staff should be available to counsel the students through each stage of their learning.
7. The term end examination should carry a small weightage (about 20%) in the total evaluation of the performance of the students in any subject. The evaluation by the teacher throughout the term be main component of the evaluation of the students.

It is felt that if the above strategies are implemented, we will greatly enhance the quality of our graduates.

Fostering Entrepreneurial Education at Grassroot Levels Perspective and Future in 21st Century

P.K. Dutta[1]
A. Sahay[2]
Rakesh Kumar[3]

Introduction

Education is the corner-stone of any nation's edifice Without education a nation cannot wage its struggle for existence. It is education that prepares the people to face the challenge of development and consequently plays a vital role in shaping the human life for better living. That's why education has been considered to be the most important single factor with potentiality for all round development of the society and the country. Accordingly, the concerted endeavour to initiate educational policies and schemes by the Government of India has been launched soon after the country attained independence with a view to educate all people and make them self-reliant and self-sufficient. But it failed in its own objective to achieve the desired result. Education imparted in schools and colleges, being hardly related to real-life situations, and also failed to ensure development of personality of the student at grassroot levels It failed to develop in the students a spirit of critical enquiry and initiative Education imparted has been bookish and stereotyped But, more than all these, the real danger seems to be a total lack of emphasis on the development of entrepreneurial traits, innovativeness, extension motivation etc. The system, while it is producing poor engineers, poor doctors, poor economists etc., at the same time has done a greater damage by producing dependent, ego-centric, cowardly individuals Therefore, educational system in India should be given necessary base in order to equip the child to benefit from entrepreneurial opportunities in his career. Or alternatively, it should be nurtured and propagated in such a manner that people become an asset and not a liability. Thus, there is a requiremen. to restructure and revamp the whole education system in the light of above to encompass the country's vast human resource for better productivity The solution lies in introduction of compulsory Entrepreneurial Education right from high school levels, in planned and coordinated manner up to the college level.

Fostering Entrepreneurship and Entrepreneurial Education

Formal education has always been considered an important asset of an individual in building an occupational career in a bureaucratic society Even parents also inculcate the same feelings in the minds of their children. If jobs are not found immediately after the completion of school and colleges, it leads to a lot of frustration and unrest among students. There appears to be a tough task ahead to provide every one a gainful avocation in the present scenario A conservative estimate also indicates that around 20-25 lakhs additional job seekers are entering into the arena of unemployment market annually creating structural disequilibrium in the labour market It is very difficult for any government particularly in India with huge chunk of people to cope up with this alarming and serious problem. There is a need for long-term interests by the policy-makers and government in the planned and entrepreneurial movement through the educational process Perhaps, one may make a beginning even at the high school level to nurture and spread the entrepreneurialism culture at large

Now, question arises : Is entrepreneurship or more specifically entrepreneurial education to be regarded only as a means of earning or to further one's own self-centred interests? No, it is more than what is expected from entrepreneurship. Entrepreneurship is rather a composite skill, the resultant of a

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mix of many qualities and traits. These include imagination, readiness to take risks, ability to bring together and put to use other factors of production, capital, labour, land and also intangible factors such as the ability to mobilise scientific and technological advances. In other words, it is the concept which nurtures and grooms any individual towards development of all round personality traits and attitudes. It develops the capacity to take risk independently and individually, with a view to sensitizing an opportunity to make earnings for their livelihood in a state of shrinking job-opportunities and burgeoning population.

Economic demographers have also figured that in the year 2000 there are likey to be 50 million unemployed youths in the 16-24 age-group. Therefore, something must be done to generate more jobs and to evolve entrepreneurship in India right from grass-root levels. Accordingly, the National Policy on Education as early as in May 1986 experiencing this problem among other things has appropriately mentioned that encouragement has to be given to students to consider self-employment as a career option and training in Entrepreneurship to be provided through modular or optional courses in degree or diploma programmes. As a prelude to this, entrepreneurship has attained status of movement in India as well.

It is visible as a significant programme in the national development plan, with as many as 686 organisations participating in the development process. These include besides the traditional departments of industries, many financial and educational institutions, and voluntary organisations which have started separate cells/divisions for entrepreneurship development Notable among these has been the establishment of National Science and Technology Entrepreneurship Development Board (NSTEDB) in 1982 as an apex organisation to evolve policies and programmes for generating a wide range of entrepreneurial avenues for S and T personnel. The setting up of EDCs in Engineering Colleges and IITs, creation of Science and Technology Parks (STEP), launching of Science and Technology Entrepreneurship Development Project (STEDP) in industrially backward districts, introduction of EDP in the engineering curriculum and sponsoring of special training programmes for S&T graduates are some of the laudable steps taken by the Department of Science & Technology, Government of India. Apart from this, general EDP, Women EDP, Specific Category-oriented EDP for focus group of the society, EDP for Science and Technology persons, Rural entrepreneurship programmes etc. are some other programmes sponsored and supported by various financial institutions (IDBI, IFCI, ICICI, SIDBI, NABARD etc.) aimed to develop entrepreneurship among unemployed youths. Of late, even the polytechnic institutions have started taking interest in this area and introduced entrepreneurship in the course curriculum. Several national institutions like NISIET, EDII, NIESBUD and others deliberated and even suggested and assisted in the formulation of the syllabi for the programmes. The experiences of these institutions would go a long way in evolving a pragmatic and systematic approach to entrepreneurial education in universities, IITs, IIMs, Engineering colleges, Polytechnics, Home Science Colleges, etc.

While entrepreneurial education in India is of recent origin, the efforts made through short-term programmes, viz., Entrepreneurship Awareness Camp (EAC), Entrepreneurship Development Programmes (EDP, Intensive Industrial Motivation Campaign (IIMC), Skill-Development Training, Technology Clinics, Seminar, Brain-storming Sessions etc. have significantly contributed to the development of small scale entrepreneurship both quantitatively and qualitatively. However, despite these efforts, the success rate at national level is only a discouraging 20%.

Therefore, to improve this success rate and to propagate entrepreneurial education, there seems urgent need to bring about some standardisation in the methodology, content and duration besides evolving programmes and strategies right from high school level. This, if it occurs, will be a welcome incidental consequence. This will create a meaningful appreciation of entrepreneurial qualities among them at younger age, which at a later stage may help him, if need be, to develop as an enterpreneur himself, or even otherwise, appreciate such inclinations on the part of his peers and siblings. No doubt,the entrepreneurial education would send a signal for creating an atmosphere or climate of innovativeness, originality, creativity and a striving for excellence among younger generations. This would further enable the crystalisation of entrepreneurial initiatives right from grassroot levels towards development of self-employed ventures and small scale industries, thereby contibuting towards economic development and creation of employment opportunities, improvement in the standard of living etc., which would further promote visionary and integrated talents with outstanding leadership qualities among them and will foster a spirit of enterprise for the welfare of mankind.

Entrepreneurial Education - A Conceptual Model

Educating People for entrepreneurship and entrepreneurial management would involve a broad-based approach. A cycle for developing entrepreneurial education is given below to understand the birth and growth process:

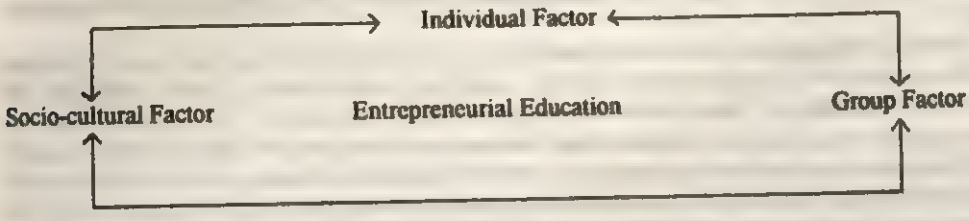

Fig. 1 : Entrepreneurial Education Development Cycle

In developing entrepreneurial education, the individual or facilitator role becomes much crucial for its birth. Because, it would be the entrepreneurial facilitator, who would entail the integration of entrepreneurial education along with the general educational process through well planned experiential processes. The entrepreneurial facilitator through his own dedication will prove beneficial for formulating the proper and effective strategies towards implementing the entrepreneural course curricula at grassroot and for higher level. The socio-cultural factor would help in creating a conducive atmosphere for effective stimulatory campaign for promoting ethics and values for entrepreneurialism, culture both at society and family level. It is the family, where one gets impetus to select a career option. So, it is in that way would help in further promoting the entrepreneurial education for better prosperity of family and society as well.

The group factors, i.e., teachers, educational planners, promotional institutions, parents, social workers etc. are involved in a big way towards success and launching of any educatioanl programmes. Therefore, they must be sensitized to visualize the real problem of future generation in India, and should appreciate the hidden role of entrepreneurial education in shaping future milieu. The entrepreneurial education, thus requires a coordinated approach to evolve a systematic model of development for effective implementation right from high-school to college levels towards the nation's economic growth as well as for minimising the burden of unemployment.

A detailed model for entrepreneurial education at grassroot level in Indian setting is also being outlined to indicate various stages involved in the growth and implementation:

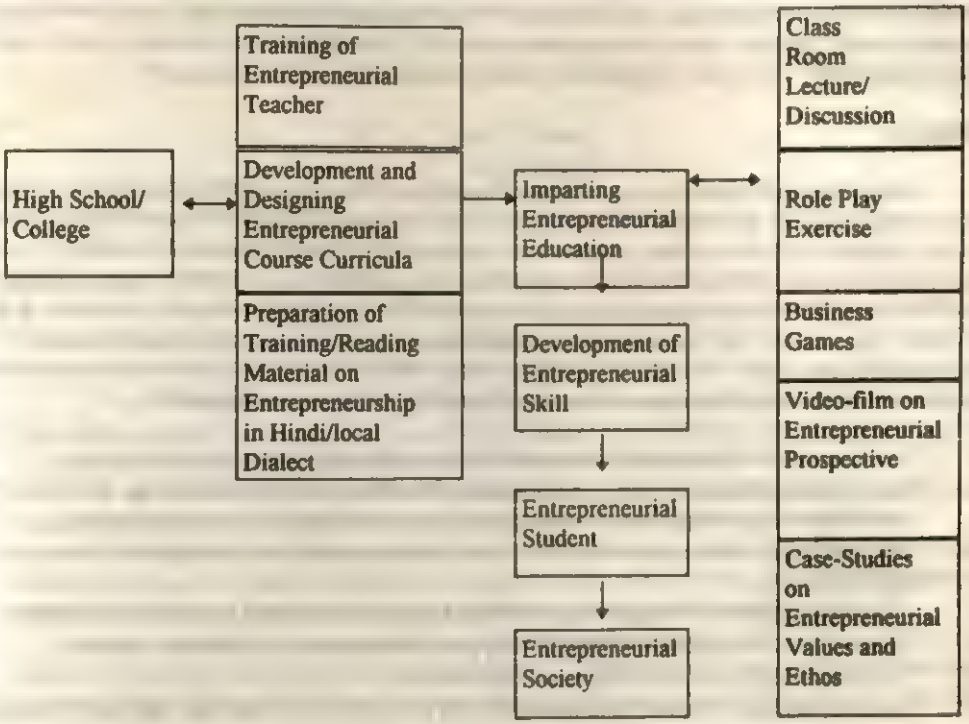

Fig. 2 : Model for Entrepreneurial Education at Grass-root Level in Indian Setting

Source : Author Dutta

The above block is self-explanatory and clearly indicates the inter-woven role at various stages involved in the development of entrepreneurial education.

Feature of Entrepreneurial Education in 21st Century

It is beyond doubt that there is a need to evolve new strategies to create a conducive climate of gowth for entrepreneurial education. The prospect for this discipline lies in the fuller exploitation of resources available around us. Further, it is a field that lays emphasis on attitudinal and values change rather than acquisition of skills or information. Therefore, this field is becoming more relevant and is the need of the hour.

In India, we too are facing new challenges posed by the prospective employers. Today apart from the entry level qualifications, viz., engineering, accountancy, management or computers - organisations are on the look out for that differential edge which is not just a qualification or a skill but 'an attitude'. It is the attitude towards challenges, ability to get along with people, an approach that spells success in every move etc. This could be achieved only through entrepreneurial education because this entails the growth of specific traits and capabilities among any individual. What is more, the prospective employers are also on lookout of entrepreneurial employees, who could contribute towards the growth of employer through his or her innovative and creative skills. The change is also taking place at a rapid pace posing serious problem for both employer and employee, so there comes rescue through only entrepreneurial and innovative education nurtured and promoted right from high school level to the students. This would no doubt result in economic prosperity of the people, and also would entail the growth of whole nation by involving all factors of production.

The implementation of entrepreneurial education at grass-root level, however, is not all rosy. It was subject to few inhibiting factors as well : These are : (i) lack of trained entrepreneurial teachers, (ii) lack of familial and community support, (iii) shyness and inhibition, (iv) lack of training material, (v) lack

of proper teaching methodology, (vi) preference for conventional education etc. These could easily be overcome through planned efforts and systematic approach, if once decided to implement and to make the nation progressive.

Conclusion

Entrepreneurial education as a vehicle of development has now well been established. Till now, the programmes related to entrepreneurial education have remained confined to the unemployed youths or final year students of degree colleges, polytechnics, engineering colleges, management institutes, etc. As a result of this, the entrepreneurship failed to blossom in its expected level. Therefore, now it is being felt that efforts should be made in planned manner to inculcate the spirit of entrepreneurial education at grass-root levels for curbing the unemployment problem as well as towards the all-round prosperity and development of the nation. The following efforts would certainly bolster the effective implementation of entrepreneurial education for economic progress, if launched and propagated properly :

(i) Entrepreneurial education be made part of course-curricula at school and college level.
(ii) Entrepreneurial training should be organised for school teachers, and college professors. This would help in the integration of entrepreneurial ideas alongwith the general education.
(iii) Entrepreneurial training materials for school children should be developed in vernacular and local dialect.
(iv) Video-films based on entrepreneurial ethos and values be developed to sensitize the students
(v) Case-studies of successful entrepreneurship and publicity materials should be prepared.
(vi) Teaching model of school level should be developed.
(vii) Special provisions should be allocated by the government to meet the additional expenditure incurred on the promotion of entrepreneurial education.

Thus, these efforts would fill a big vacuum in the promotion and popularisation of entrepreneurial education at school level. This would further boost the momentum of entrepreneurship for speedy economic prosperity and growth of the nation through generation of self-employment opportunities to millions of unemployed. It would certainly lead India towards a New Vision in the next century by developing risk-taking and innovative younger generation coupled with positive attitude and would be a stepping stone in making an entrepreneurial society for better goals and productivity.

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Sustainable Human Development through Technical Education

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Introduction

The Future will very greatly by what we make of it, today.

The trend towards **regional economic communities** competing in a global market has put tremendous pressure on participating countries **to redesign** their education and training systems in order to produce **a world-class adaptive workforce for the next millennium.**

It also indicates **the need for the identification of future market opportunities aligned to planning and policies** of industrial development to take advantage of new potential market.

In this context for developing countries like India, the importance of well educated and technical trained workforce, at all level, is seen to be an important factor in providing the necessary inputs to enable nation to **advance and develop global competitive edge and sustain the same.**

The **sustainable human development** through education and training has a profound significance that goes far deeper than merely bolstering competitiveness. Such endeavour seeks to liberate men and women from the shackles of ancient property and ignorance by delivering into their own hands the keys that **open the doors of opportunity.**

Present Scenario

Our nation as a whole and our education system are experiencing the effects of change caused by :

- **ever expanding global markets.**
- **continuous emergence of new technologies and their applications which result into high rate of obsolence.**
- **ever increasing competition at national and international level.**

All these changes have given rise to the following needs :

- **the need to create alternative product and markets,**
- **the need to modernize industrial and commercial production processes,**
- **the need to implement more efficient work practices,**
- **the need to be able to exploit new technologies,**
- **the need to organise competency based education and training, and**
- **the need to design and implement flexible delivery methodologies of education and training.**

These needs can be met through sustainable human development by **reorienting** the system of technical education and training which will address the above needs on **continuous basis.**

The present technical education and training system has to redesign its processes in order to prepare well educated and trained workforce at all levels to improve the economic condition of the nation.

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Sustainable Human Development

The need for **workplace skills** is intensifying. The workforce of future will be required to be equipped with the following skills :

- **Technical skills**
- **Generic skills**
- **Skills for enhancing knowledge base.**

These skills can be imparted through :

- **Development of attitude of learning to learn and self learning**
- **Development of flexible workforce to constantly adapt to new situations and**
- **Application of learning to new situations through innovative approaches.**

The **reoriented technical education system** has to incorporate **formal and nonformal or informal approaches to training** to meet the above demands. The significant approaches are:

- **Integration of training needs into national planning** by identifying future market opportunities and aligning them to strategic industrial planning to take advantage of new potential markets.
- **Planning and management of technical education efficiently and effectively** to minimize the gap between training and employment. This ensures that supply is able to meet changes in employment structures and skills demanded.
- **Expanding educational systems** to meet developing requirements of the information technology society by shifting its processes for secondary or manufacturing industries towards tertiary or service-oriented industries.
- **Developing a lifelong learning culture/Continuing education programmes.**
- **Strategies of the integration of emerging technologies in present curricula through flexibility/autonomy.**
- **Continuous curriculum development/frequent curricular changes.**
- **Distance education and Value education.**

All these require new initiatives to be taken in least possible time.

New Initiatives

- **Implementation of quality systems.**
- **Partnership and collaborative arrangements with industry.**
- **Network institutional linkages/Global interconnectivity/Networked system of education.**
- **Initiating structural changes in the education system.**
- **Identifying internal and external sources of revenue and resource generation.**

These new initiatives will need to **develop responsive technical education structures, systems and policies** that will enhance the quality of products and services on a sustainable basis. The sustainable human development will depend on the formulation and implementation of these initiatives through efficient and effective planning mechanisms.

The development of a framework to advance these new initiatives and priorities must be considered if technical education is to remain a relevant and viable force within the context of regional and global market demands.

It will be necessary to identify environmental influences such as key trends, changes in the workplace skills, training market, labour force demands, etc., including the context in which technical education delivers its products and services.

Emerging Paradigm and Perspective

The emerging paradigm and perspective is not very distant and will be realized at the beginning of the 21st century.

As per Delors Commission Report published by UNESCO the four pillars of education are : learning to know, learning to do, learning to live together, learning to be. **(University News, 35 (20), May 19, 1997, Page 17)**

The following six principles are identified by the study published by OECD in 1995 which will dictate the learning in the next millennium.

- **Learning in the 21st century will become** the essential part of everyday human activity;
- **Access to learning in the 21st century will** need to become as near universal as possible;
- **Learning technologies in the 21st century will** need to respond flexibly to learner needs;
- **Learning suppliers in the 21st century will** need to adapt their ways to meet the changing demands of their clients and to maximise the potential of new delivery techniques;
- **Government in the 21st century will** need to play an active role in supporting the learning infrastructure, but should not attempt to control the learning agenda; and
- **Learning in the 21st century will** need to be a collaborative enterprise.
  (University News, 35 (20) May 19, 1997, Page 17)

Conclusions

The technical education system is facing many challenges and issues related to development of sustainable workforce. **The answers are to be found in structures, systems and policies that we employ in our country.**

The Sustainable Human Development needs an educational system which must anticipate the demands of the future, restructure its courses and processes/technology, and promote/cultivate necessary attitudinal changes for their acceptability.

It may seem that these challenges are too many to deal with, but in striving to develop strategies to deliver services and products in an environment which is accessible, **quality-driven and cost effective,** we are already a long way towards meeting these challenges.

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An Educational System to promote Dynamic Industrial Climate

P. Radhakrishnan[1]

Introduction

The competitiveness of Indian Industry in the future will depend on the skills, knowledge and innovative ability of engineers who are an integral part of the manufacturing system. Already our country is feeling the impact of liberalization in the technological, industrial and economic spheres and the changes in these sectors are likely to be more pronounced in future. Our industry has to be properly equipped at all levels to keep pace with the changes. It is therefore necessary to redesign our technical education system to promote a dynamic industrial climate. This is essential to ensure that India will become an economically powerful nation during the next two decades.

Emerging Scenario

There are a few interesting patterns that can be observed in the world technological scene which are of interest to our educational planners. These are briefly outlined below :

i) The need to compete in a global market will force the Indian industries to shed their lethargy and reengineer their business processes for more efficient and responsive operation.
ii) The change in the engineering work force is another concern. Today we have more women engineers. This segment of industrial population is likely to increase in future Similarly involvement of women in manufacturing and other industrial activities is likely to be more and more pronounced in future. Educational systems and workplaces which are designed today for predominantly male operation will have to be modified to take this factor into consideration.
iii) As the industry becomes more and more efficient and productive and driven by information technology, the need for engineers in numbers is likely to decline. Though the number of industries may increase, the requirement of engineers per industry will be reduced
iv) The skills and profile of work force is likely to change considerably. The use of information technology has reduced the importance of skill in many areas. The reliance of unskilled labour is likely to disappear and in its place, the labour force of the future will have to be trained in multiple skills.
v) The industries will become leaner and fitter with reduced workforce to be specialized and competitive. They have to respond to industrial changes rapidly
vi) The best manufacturing practices like TQM, JIT, and supply Chain partnership followed in a few companies today will become more widespread. Concurrent engineering philosophy implemented through cross functional teams will be the normal practice to reduce time to market. Individual excellence will be replaced by collective effort for better performance of the company.
vii) The rate of obsolescence will be faster and hence the rate of product development will have to be accelerated.

Index of Industrial Dynamism

Innovation and continuous changes are the hallmarks of a dynamic industry. For making the engineers to be innovative, the technological educational system should be having the following attributes:

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i) Engineers should not only be aware of the need for life long learning but also capable of continuous updating of knowledge.
ii) Engineers should realize that continuous improvements in their products and processes are essential to keep their companies prospects bright in this age of global competition;
iii) Engineers should be capable of applying latest technologies to keep their organisation competitive and responsive to market changes.

Attributes of a Dynamic Industrial Climate

Attributes of a dynamic industrial climate can be defined as the capacity of the industry to compete in the world market by manufacturing goods of world class quality which are delivered in time at competitive prices.

Considering our industrial scene this indeed is a tall order. Having accustomed to operating in a protected market our industries by and large are incapable of meeting global competition. Manufacturing must be backed up by a dynamic R&D set up to achieve world class quality. Attitudinal changes will only help to make the existing products perfect. However, if we try to analyze a large number of our products it will be clear that technologically they are inferior to comparable products from abroad. In an era of liberalization, it is illogical to expect the foreign manufacturers to provide only technical knowhow. Our past experience shows that our industries, by and large, have failed in absorbing technology and developing it further to compete with knowhow providers.There is no point in complaining that the technology that we receive often is obsolete. Nothing better can be expected in a competitive market.

Why did our engineering educational system fail ?

Since independence, several models of technical educational systems have been transplanted in the country. We did produce bright and brilliant engineers but the society failed to keep them within our shores. This trend still continues and until and unless our country awakes and stops giving a raw deal to engineers we may not be able to retain the best of our engineering talent.

The next best thing to do is to take a closer look at our technical educational system as practised in most of our state engineering colleges-both aided and private. Unless we revamp the technical education system, it will not be possible to improve the industrial climate as bulk of manpower is supplied by these institutions.

The educational system followed in these institutions do not differ much from liberal arts or science education. The premium on laboratory and workshop training has been diluted over the years and the system of education has not undergone any significant change to make it interesting and challenging to the students. A part of the blame should be shared by the teachers of engineering colleges-many of them do not really have any idea of their role in shaping the destinies of the thousands of future engineers and the expectations of the market place.

What needs to be done

The following steps are suggested to remedy this situation:

i) ensure that the course syllabus do indeed provide the soundest grounding in fundamentals;
ii) set out educational objectives more clearly in terms of skills, knowledge, know-how and understanding;
iii) problem solving skills should be given due priority;
iv) students should be aware of social, economical and environmental issues involved in engineering decision making;
v) provide adequate number of design projects in the courses since these are particularly effective in creating enthusiasm to learn; and
vi) make the projects undertaken by the students industrially relevant by collaborating with industries.

Conclusions

There is a need to change our technical education system to meet the challenges of liberalization, privatisation and globalization. Some suggestions have been put forward in this paper to revamp it so that the engineers trained in our technological institutions can meet these challenges successfully.

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Role of Professional Education in Overall Development of the Personality

Neelu Rohmetra[1]

Introduction

The forces of globalisation, deregulation, open competition, privatisation and technological changes are impinging on society and driving change. These forces that have an impact on society and business will be increasingly significant factors affecting the context in which education occurs and institutionalises in the next decade. Understandably, a pattern of education and training is essential which manifests a paradigm shift (Table-1, pg. 881) thus leads to overall personality development of trainees and professionals to enable them to handle these challenges well. In the backdrop, the present work seeks to put forth the following :

1. the essence and role of education, and
2. an empirical research study comparing personality traits of trainees belonging to three different streams viz; Business education (MBA), Engineering and Medical.

Essence and Role of Education

Education in general occupies a prestigious status in the modern context of the contemporary society. It is fundamental to our all round development, material and spiritual. A sound educational system is expected to play a major role in promoting harmonious development of all the faculties towards adequate preparation for life. It also aims at refining sensitivities and perceptions that contribute to independence of mind and spirit and a scientific temper, thus furthering the goals of socialism, secularism and democracy. Education, therefore, is not only associated with imparting of skills and knowledge but is critical and instrumental in significantly influencing socio-economic milieu.

The recently published UNESO's International Commission report (Delors, 1996) has identified four pillars of education as basic framework for global curriculum. They are:

- Learning to know;
- Learning to do;
- Learning to be; and
- Learning to live together.

Understandably, these have direct bearing on the quality and efficiency of education, which develops life - long learning abilities and nurtures rationality in perception, flexibility in behaviour and articulation in decision making.

Higher education in India has expanded very rapidly in the last four decades after independence (Desai, 1995). However, the major issues which we are confronted with, today are the quality and relevance of education in context of changing socio-economic milieu. Unfortunately, our educational system tests the ignorance rather than the knowledge and competence possessed by the candidate. It fails to tap and channelise the energies of the students for holistic development and optimum utilisation of their potential to achieve large societal objectives. The system leads to lop sided development of personalities, without any humane flavour, who fails miserably in managing men and resources. Such personalities fail to answer two critical queries: (i) What do I expect from society in the light of my potentialities; and (ii) what do I owe to society in the light of privileges I enjoy as member of the society? Consequently, their learning sufferes, motiviation deteriorates and perception becomes sick. As Desai, (1995: 18-31) puts it :

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The road to the development of a nation is through the education system and if we compromise on education at any level, we will jeopardies the socio-economic development of the country. There is no denying the fact that tremendous increase in scientific and technical manpower has provided India an adequate subsatum to enter the field of globalisation and beocme self-sufficient. But if we want to maintain high moral standards and ethical values in our public life, in the professions, in business and in the development of our rural economy, as well as prepare our students to enter the world of work as productive and responsible citizens and as parents rearing our future generations, we need to do considerable rethinking in respect of the education system and its relevance to the rapidly changing socio-economic environment.

The main function of education is to produce citizens with sound character and a healthy personality, (Prahallada, 1995-:73-79). The socio-political scenario prevalent in our country clearly reflects that our educational training is suffering from a number of deficiencies. The increasing rate of crimes, corruption, injstice, agitation, unemployment and general social unrest vividly mirror the weaknesses of our educational system. The pseudo educated elite portray indecisiveness and lack of determination and are generally found to be unclear about their duties and responsibilites towards various sections of society at large. Thus, in absence of a system that believes and works towards better understanding of needs, aspirations and potentialities of students, the objective of producing mature, balanced and developed personalities seems unachievable.

In the light of the above, higher education and professional training should seek to develop and concretise in learners :

1. the potential to think critically to synthesise and generalise;
2. the feelings and attitudes that will make it possible for the learner to think and act appropriately;
3. the desire for need for change and discover appropriate alternatives;
4. the capacity to establish and sustain purposeful working relationships; and
5. a sound philosophy of life to rebuild the personality expressed through the professional self.

However, all these call for radical changes in the teaching-learning process and delivery mechanisms. The programmes and courses that these institutions offer should meet the criteria of innovation, novelty, relevance and acceptance by students.

Education and Personality - An Empirical Study

In the light of the above, the researcher undertook a micro level study to get a feel about the degree to which our existing professional education and training system influences the various personality traits deemed necessary for determining socio - economic adaptability in the present context.

Objectives of the Study

1. To identify and locate the existing level of intellectual, creative, emotional, behavioural , depositional, social and perceptual rigidities among the learners belonging to different professional courses.
2. To undertake a comparative analysis between groups viz - a - viz various dimensions assuming that these variables are predominantly the function of our teaching - learning process.

Assumption

Formal education contributes significantly towards shaping personality constitution.

Methodology

Three streams of professional education were identified for the purpose of study, viz; Business and Management education, Engineering and Medical sciences. It is important to note that the common thread running through these courses is that they all seek to develop cause and effect relationship. Additionally, the sample was collected from the state of Jammu and Kashmir only. However, care was

taken to include both male and female to make the representation complete. They all belonged to age group of 22 - 25 years.

A well structured 'Rigidity scale' designed by Chadha (1986) has been used for the purpose of the present study. The various dimensions of Rigidity scale are:

1. Intellectual Rigidity (A)
2. Emotional Rigidity (B)
3. Dispositional Rigidity ©
4. Social Rigidity (D)
5. Behavioural Rigidity (E)
6. Perceptual Rigidity (F)
7. Creativity Rigidity (G)

A. Intellectual Rigidity

(i) Not accepting anything or idea without logical reasoning.
(ii) Believing in setting high standards for oneself and striving for the best.
(iii) To have an inclination toward thinking about and discussing intellectual and philosophical matters.
(iv) To have definite ideas about things.

B. Emotional Rigidity

(i) Lack of emotional reaction even when the situation demands it.
(ii) To have definite ideas about what type of emotional reactions should be aroused in particular emotional situations.
(iii) Arousal of similar, unchanged emotional response to stimuli.
(iv) To exert strict control over one's emotions.

C. Dispositional Rigidity: (With respect to attitudes/habits)

(i) To have very definite and rigid habits and/or ideas about habits of eating, sleeping, reading, dealing with things, etc.
(ii) To be inclined to finish works once started.
(iii) To hold extreme attitudes (positive or negative) regarding persons, things problems, etc.

D. Social Rigidity: (With respect to society)

(i) To find it very difficult to feel comfortable in a social gathering or a new situation.
(ii) Not developing too many new acquaintances.
(iii) To have very well defined ideas about society and the social responsibilities of the people.
(iv) Giving too much importance to friendship.

E. Behavioural Rigidity: (With respect to tradition/custom)

(i) To stick to traditional ways of dressing.
(ii) To have strict and definite attitude towards Indian traditions and customs.

F. Perceptual Rigidity:

(i) Not to accept or believe in anything without seeing a proof supporting it.
(ii) Generally misperceive something for some other things.
(iii) Not able to perceive abstract relationships among things and a tendency to stick to obvious relationship.
(iv) To perceive one's own knowledge about things to be always correct.

G. Creative Rigidity:

(i) To be able to think of a few diverse ideas at a time (lack of fluency)
(ii) Not able to think about a thing or problem from many different angles.
(iii) To show stereotype in ideas.

Trends, analysis and interpretation

Rigidity is a tendency to perseverate and resist conceptual change, to resist the acquisition of new patterns of behaviour and to refuse to relinquish old and established patterns. (Schaie, 1995). Accordingly, higher the rigidity along that dimension. For the purpose of analysis Mean Scores, Standard Deviation and Coefficient of Variation have been calculated. (Table 2 pg. 881) depicts the position of various personality dimensions on Rigidity Scale. The noted trends are:

- Students belonging to the engineering group have the minimum coefficient of variation. This shows they have more consistency in their intellectual rigidity as compared to students of business and medical groups.
- Students beloning to business education group have a minimum emotional rigidity. This is explained through the minimum degree of coefficient of variation among three different groups under study.
- Engineering students have a minimum dispositional rigidity viz-a-viz business education and medical sciences. This shows that engineering students are consistent in their dispositional rigidity.
- As far as social rigidity is concerned engineering have a minimum coefficient of variation. This shows they have a consistency in social rigidity in comparison to students of business and medical groups.
- As far as behavioural rigidity is concerned engineering candidates score minimum in coefficient of variation in comparison to business and medical education. This shows that the behavioural rigidity of engineering students is highly consistent.
- The pereceptual rigidity is minimum in case of engineering graduates and that they are consistent in their perceptual rigidity as compared to students of business and medical education.
- As far as creative rigidity is concerned coefficient of variation is minimum with business education viz-a-viz engineering and medical education which shows that students of management education are consistent in their creative rigidity.

Coefficient of correlation have been computed between seven dimensions of the instrument. The details exhibiting inter-item correlation are presented in (Table 3, pg. 882). The high inter-item coefficient of correlation indicate high internal consistency among the items.

T-test has been applied to further test the veracity of results (Table 3, pg. 882). We start with the null hypothesis that there is no significant difference in the intellectual rigidity of business education and engineering students. As the calculated value is less than the tabled value we conclude that there is no significant difference between business education and engineering students along intellectual dimension. Similarly, since the calculated t value for medical and engineering groups is less than the table value, we conclude that there is also no significant difference between the groups under consideration along Intellectual Rigidity dimension. Similar interpretation has been extended in case of all other dimensions of Rigidity Scale used for the purpose of study. Majority of the calculated t-test values pertaining to

different combinations and relationships among the groups exhibit insignificant difference. However, t-test values obtained for Groups 1 and 3 combination along Dispositional Rigidity dimension is greater than the table value and so we conclude that there is a significant difference along Dispositional Rigidity dimension. Similarly, there is a significant difference between Groups 1 and 3 combination along Creative Rigidity dimension. Groups 1 and 2 combination is significantly different along Behavioural and Perceptual Rigidity dimensions and Groups 2 and 3 combination is significantly different along Behavioural and Creative Rigidity dimensions.

Discussion

Out of seven dimensions that have been studied, in as many as five dimensions, engineers have shown consistency in their rigidity, except that of emotional and creative rigidities. This shows that overall engineering personality is rigid as they in their training programme go through the education of logic and they develop their personality in such a manner that in their life time they are not swayed away by illogical things.

As far as business education students are concerned they have scored minimum coefficient of variation for emotional rigidity and creative rigidity. This shows they are ruthlessly professional and have a flair for creativity. Medical students have highest inconsistency in behavioural rigidity and they are in between business education and medical education in all other parameters.

The study clearly implies that nature of education and training students undergo exercises a significant influence in shaping the personality of students to cater well to the requirements of respective professions. The findings of the study prove that the engineering education produces more rigid personalities as compared to business and medical groups. Medical education produces medical professionals who exhibit rigidity at balanced level as compared to engineering and business professionals. Talking about the business education, it produces managers who exhibit minimum level of rigidity in the personality make up as per the requirements of the profession. In short, the study reports that each stream of education produces professionals as per the requirements of respective professions.

Business education produces flexible adjusting personalities who respond well to the changing environments and situations while executing managerial functions. Medical education contributes towards developing balanced personalities possessing appropriate mix of all the traits. Finally, engineering education adds towards logical and rational behaviour without much room for emotional or illogical response which goes well with operational and pragmatic requirements of the job in view. To cap it all, the three professional educational streams under study are making significant contribution towards personality developments. However, a lot more needs to be done in terms of improvements and amendments in teaching-learning process, delivery mechanisms, curriculum design and perhaps restructuring authority relationships so as to successfully achieve the objective of producing dynamic, enterprising and responsible professionals, who are capable of handling and responding to socio-economic pressures well-both at national and international levels.

References

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2. Desai, Armaity S.; *Policies in Higher Education in India*, in Uberoi, N.K., (ed), **Professional Competency in Higher Education**, Centre for Professional Development in Higher Education, Delhi, 1995.
3. Fagg, K. and Ramn, K.; *Management Education in the coming Millennium*, **Indian Management**, 36 (3), 41-50, March 1997.
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Table 1

The Education Paradigm Shift

	Old		New
1.	Take what you can get	1.	Courses on demand
2.	Academic calender	2.	Year - round operations
3.	University as a city	3.	University as an idea
4.	Terminal degree	4.	Lifelong learning
5.	University as an ivory tower	5.	University as a partner in society
6.	Student = 18 to 25 years	6.	Cradle - to - grave
7.	Books are primary medium	7.	Information on demand
8.	Tenure	8.	Market value
9.	Single product	9.	Information reuse/info exhaust
10.	Student = 4 year revenue source	10.	Lifelong revenue source
11.	Competition is Other Universities	11.	Competition is Everyone
12.	Student as a Pain	12.	Student as a Customer
13.	Delivery in a classroom	13.	Delivery anywhere
14.	Multi-cultural	14.	Global
15.	Bricks and mortar	15.	Bits and bytes
16.	Single disciple	16.	Multi-disciplinary
17.	Institutioncentric	17.	Marketcentric
18.	Government funded	18.	Market funded
19.	Technology as an expense	19.	Technology as a differentiator

Source: Fagg, Kevin and Ramn, Kathy, Management Education in the coming Millennium, **Indian Management**, March 1997, 36 (3), 41-50.

Table 2
Position of Responses

Rigidity, Scale Dimensions	Group I Business Education			Group 2 Engineering			Group 3 Medical		
	Mean	S.D.	C.V.	Mean	S.D.	C.V.	Mean	S.D.	C.V.
A	6.571	1.718	26.14	7.000	1.291	18.44	6.571	1.718	26.14
B	5.286	1.380	26.10	7.000	2.517	35.95	6.429	2.149	33.42
C	6.714	2.430	36.19	8.286	2.215	26.73	9.571	2.507	26.19
D	6.286	1.799	28.62	7.143	1.345	18.83	6.571	1.397	21.26
E	2.857	1.864	65.24	4.571	1.718	37.58	2.286	1.496	65.44
F	3.000	1.915	63.83	5.429	2.225	40.98	3.714	1.890	50.89
G	5.143	1.069	20.78	4.857	1.864	38.37	3.429	0.976	28.46
Overall personality rigidity score	5.122			6.326			5.510		

Table 3

Pearson Correlation Matrix Showing Inter-item Consistency

	A	B	C	D	E	F	G
A	1.000	0.756	0.058	0.945	0.971	0.958	0.359
B	0.756	1.000	0.697	0.929	0.577	0.912	0.339
C	0.058	0.697	1.000	0.381	0.184	0.341	0.911
D	0.945	0.929	0.381	1.000	0.839	0.999	0.034
E	0.971	0.577	-0.184	0.839	1.000	0.861	0.573
F	0.958	0.912	0.341	0.999	0.861	1.000	0.077
G	0.359	-0.339	-0.911	0.034	0.573	0.077	1.000

NOTES : Tables 2 & 3.

A = Intellectual Rigidity
B = Emotional Rigidity
C = Dispositional Rigidity
D = Social Rigidity
E = Behavioural Rigidity
F = Perceptual Rigidity
G = Creative Rigidity

Table 4

t values at 0.05 level at 12 d.f.

Dimensions	Groups		
	1 and 2	1 and 3	2 and 3
A	0.528	0.000	0.441
B	1.580	1.184	0.457
C	1.265	2.165	1.017
D	1.000	0.332	0.779
E	1.789	0.632	2.654
F	2.189	0.702	1.554
G	0.352	3.133	1.796

Experimentation of Autonomy at Government Polytechnic, Aurangabad A Case Study

P.M. Kshirsagar[1]
A.R. Thete[2]

Introduction

The rapid industrialisation of the country, globalization of markets, new economic policy, liberalization of trades and import export have brought about drastic changes in manpower requirements of industry. The needs of industry and society regarding trained and skilled manpower are becoming widely diversified and multi-disciplinary.

The rigid and broad-based education system prevailing in most parts of the country does not promote prompt satisfaction of these needs. This highlights the importance of according autonomy to polytechnics, so that programmes, courses, examination systems, institutional governance and administration reach upto the predetermined quality and lead to satisfaction of the needs of user systems.

Against this backdrop, autonomy has been rewarded to Government Polytechnic, Aurangabad vide G.R. No. WBP-1093 (2640) (69)/TE-5, dated 30.5.1994 of Higher and Technical Education and Employment Department of Government of Maharashtra, from the academic year 1994-95. The Institute has now entered the third year of the project and the first batch of three-year diploma in engineering programmes under the autonomous pattern is to graduate in May 1997. During the past two years the institute implemented the Project "Autonomy and Flexibility" in word and deed bringing about a quantum jump in the quality of technician education passout of the institution. A review of manner in which autonomy is being implemented by the Institute is presented in this paper.

Steering Committee Constitution

Soon after the communication was received from the Government informing the principal that Aurangabad Govt. Polytechnic was accorded autonomy, the Principal constituted a Steering Committee, consisting of the head of the institution as Chairman, and all head of Departments as members. The purpose of the Steering Committee was finalising, based on the G.O., the Governance Structure, including various committees required for the implementation of the Autonomy in the institution and, consequently, the constitution of the committees/Board/infrastructures.

The Steering Committee met on 4th August 1994, and finalised the governance Structure and the Committees with their constitutions. The Steering Committee was disbanded as soon as the Governance structure became operational.

Governance Structure

The Governance Structure was found appropriate to the Aurangabad Government Polytechnic is shown in Figure 1 (pg 889). The brief roles of these infrastructures are provided in Annexure-A, (pg. 904). This structure has been in operation since August 1994. All committees were functional by March, 1995.

Nature/Dimensions of Autonomy

The basic aim of autonomy was to make the system more effective and efficient. Though autonomy awarded to this institute was limited to the academic dimension only, it did not prevent the

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[2] Incharge Autonomy and C.D.C.

institution in 'becoming autonomous' in other dimensions too to ensure effective implementation of the project.

'Academic Autonomy' enables the institute to drop, add, alter courses offered in the institution as per the needs of the industry and society, thereby creating appropriate technical manpower required by the user systems. This improves the acceptability of the product to industry, society and enhances the self employment potential of the passouts.

Managerial Autonomy enables the organisation to improve the effectiveness of the system and, thereby, to achieve institutional targets. Rather 'Managerial Autonomy' is a 'Must' and is complementary to academic autonomy for qualitative improvement in the system. In fact, it can be exercised by an institution to a significant extent without empowerment by superior infrastructures. The institution has used autonomy not only for curriculum design and implementation but also in various other sectors of its performance. The decisions made and strategies adopted in this regard over the past two years are detailed here. The main feature of autonomy at this institution are listed in Annexure-B, (pg. 905).

Staff Involvement

Staff involvement was one of the important features of Autonomy at this Institute. It was essential to motivate the entire staff of the institution to accept the concept of autonomy and involve them in the thinking and planning process for utilising autonomy from the very beginning to ensure their participation at every stage.

The root cause for building up this major aspect was the LEADER (PRINCIPAL) of this institute and his qualities such as initiativeness, hardworking, self-confidence, courage, helpful for decision making and dedication to the cause. How did the staff get involved in this autonomy project? Through

- Creation of mutual faith in all functionaries
- Involvement of all the functionaries

The journey to these two points is diagramatically represented in Figure 2 (pg. 885).

Figure - 02
Creation of Mutual Faith in all Functionaries and Involvement of all Functionaries

Trust is Intangible

Intangible can be Created by Intangibles

Supportive Top Leadership	To modify behavioural patterns to achieve objectives
Understanding the capacities and capabilities of staff	To practice what is preached and vice versa
Recognising and utilising staff expertise for institutional development	Initiativeness
	Building Teams
To reduce negative approaches, reinforce positive attitudes	Hardworking
Respecting all persons	Courage
Making individuals important	Participative decision-making
Clarifying all doubts/queries	Dedication to the cause

Decentralization

Important functions of the departments are to evolve suitable programmes for major and related courses, establish linkages with industries, prepare course material, develop and implement curriculum, ensure registration of courses, conduct examination (progressive and continuous assessment, revise courses in tune with the changing technological needs of society and industry.

At Aurangabad, each department has been bestowed the freedom to make all decisions related to the above-mentioned functions without let or hindrance from the principal On the other hand, principal's support has always been forthcoming. Thus each department, has, in a way, worked as an 'institution and the institution and the 'Federation of Departments'. This has enhanced the performance of the institution through:

- enhanced involvement of staff and faculty in institutional activities;
- participation in decision-making process of a large number of faculty and staff;
- acquisition of decision-making skills;
- optimal utilization of resources such as human resources, media equipment, infrastructural facilities, and
- emergence of innovations such as open book examinations, conducting expert lectuers, industrial visits, media preparation.

Parents Involvement

The involvement of parents is being promoted for getting desired outcomes from the system An annual meeting of parents is convened to discuss academic and student developmental activities Regularly (quarterly, in fact) parents are informed about the attendance and performance of their wards. Suggestions given by parents are considered and appropriate actions taken whenever feasible. Also parents are educated on the importance of autonomy and their cooperation in this venture.

Number of parent/teacher meetings	=	2 yearly
No. of parents attending meetings (1995-96)	=	60
No. of letters written in 1995-96	=	2200 (Quarterly to all parents about attendance/performance
No. of suggestions received	=	10
No. of suggestions considered	=	3
(*Telephone facility in students hostel		
*Increased cleanliness in hostel, and		
*Mess facility for students)		
No. of appropriate actions	=	02
(the first two)		

* Cleanliness in hostel is now critically monitored by the Warden

* Providing telephone facility in progress

Student Involvement

Students are deeply involved in the learning designs and their active participation is ensured in various institutional activities.

Some examples are :

- Meeting of entrants with principal and faculty, in groups (every year).
- Guidance and counselling at the time of registration and at least once during term (one teacher for 15 students)

- Selection of optional courses by students.
- Providing feedback on curriculum implementation.
- Open access to principal, HOD and faculty
- Open access in main library and departmental libraries

This has resulted in student performance, attendance and sincerity in the institution being significantly higher than the state average level.

Number of contact days/year = 200
Number of students having attendance above 80% = 95

Innovation in Teaching-Learning Process

Innovations in classroom and laboratory instruction are made to reduce the gaps between theoretical knowledge and professional skills needed :

- the inclusion of case studies is done in some courses. And one chapter from each course is designed for self-study by students.
- Laboratory in Industry - this might be the first of its kind implemented in the whole country by any institute. It is difficult to set up all the laboratories in the institute due to diversification of courses/contents and number of courses offered and, hence, the resources of industry are drawn upon.

Therefore, the Institute has taken special permission from Directorate of Technical (M.S.) Mumbai for conducting/hiring facilities available in industry/organisations in the environment. In fact, the initiative taken by the polytechnic has resulted in a state policy formulation.

A few examples of the above concept are given below:

S.No.	PRACTICALS	VENUE (WHERE)	SPECIAL FEATURES
1.	WORKSHOP PRACTICE (GAS WELDING)	WELDING WORKSHOP (PRIVATE IND.)	• Gas Welding practicals in batch of 15 on its application and procedures • Rates on contact
2.	Body and beauty care	Beauty Parlor (Private industry)	• Practicals of all terms, examinations are conducted • Rates on hourly basis
3.	Civil Workshop	Institution Buildings	• Painting class rooms • Plumbing maintenance

This unique concept has helped students to acquire curriculum skills under field conditions.

Continuous Assessment

A continuous assessment scheme has been developed to promote the acquisition of the stipulated abilities by the student. The key feature of this scheme is the continuous feedback to facilitate their learning. The main objectives of the scheme are:

- to ensure validity, reliability and comparability in the assessment
- to improve learning by students through feedback
- to improve teaching process by the use of appropriate methods

The scheme is designed for courses having laboratory experiences where there is a provision for team work marks. These marks are awarded by teachers on the basis of work done by the student with respect to stipulated ability acquisition during the laboratory experiences.

Non-Exam Credit Courses

Earlier there was little scope to develop the personality of the student, because of low priority assigned to allied education. Unduly high emphasis was placed on transferring technical knowledge to the

students. As a consequence the `technical personality' of the student was monitoring the `total personality' and the development of passouts was lacking in, among other things, confidence, thinking capacity and communication skills.

Now, a wide range of courses is available to the students to develop in dimensions of `total personality' like Yoga skills, Music, Photography, Video Shooting, Dramatics, Gardening, Painting, Sports, Spoken English, Swimming, Indian Classical dance, Two-wheeler maintenance, T.V. Servicing, Radio servicing. The number of students who opted for different courses in 1995-96 was more than in 1994-95 as shown in Figure 3, (pg. 891). Also the range of such courses has broadened.

Interaction with Industry

Interaction with industry is now occurring in the following major areas:

i. Industrial visits (a regular feature of curriculum design and implementation,
ii. Industrial training to students during vacations (2nd Term onwards for 15 days),
iii. Expert lectures from Industry pesonnel,
iv. Services to industry like material testing, calibration of gauges,
v. Campus interviews, and
vi. Industry involvement in curriculum development (25 experts from industry establishments).

The list of industries involved in polytechnic performance is enclosed in Annexure-C (pg. 906).

The exposure of students to industry practice and methods has helped them in improving their confidence and orienting themselves to industrial culture and environment.

The number of beneficiaries from various areas of industry interactions are shown in Figure 4 (pg. 892).

In addition to this about 200 industries have been identified in Maharashtra (out of which 50 are located in Aurangabad) for enhanced interaction. They are being educated on the new autonomous status of the institute. They have been invited for conducting campus interviews and for participating in curriculum implementation.

Figure1

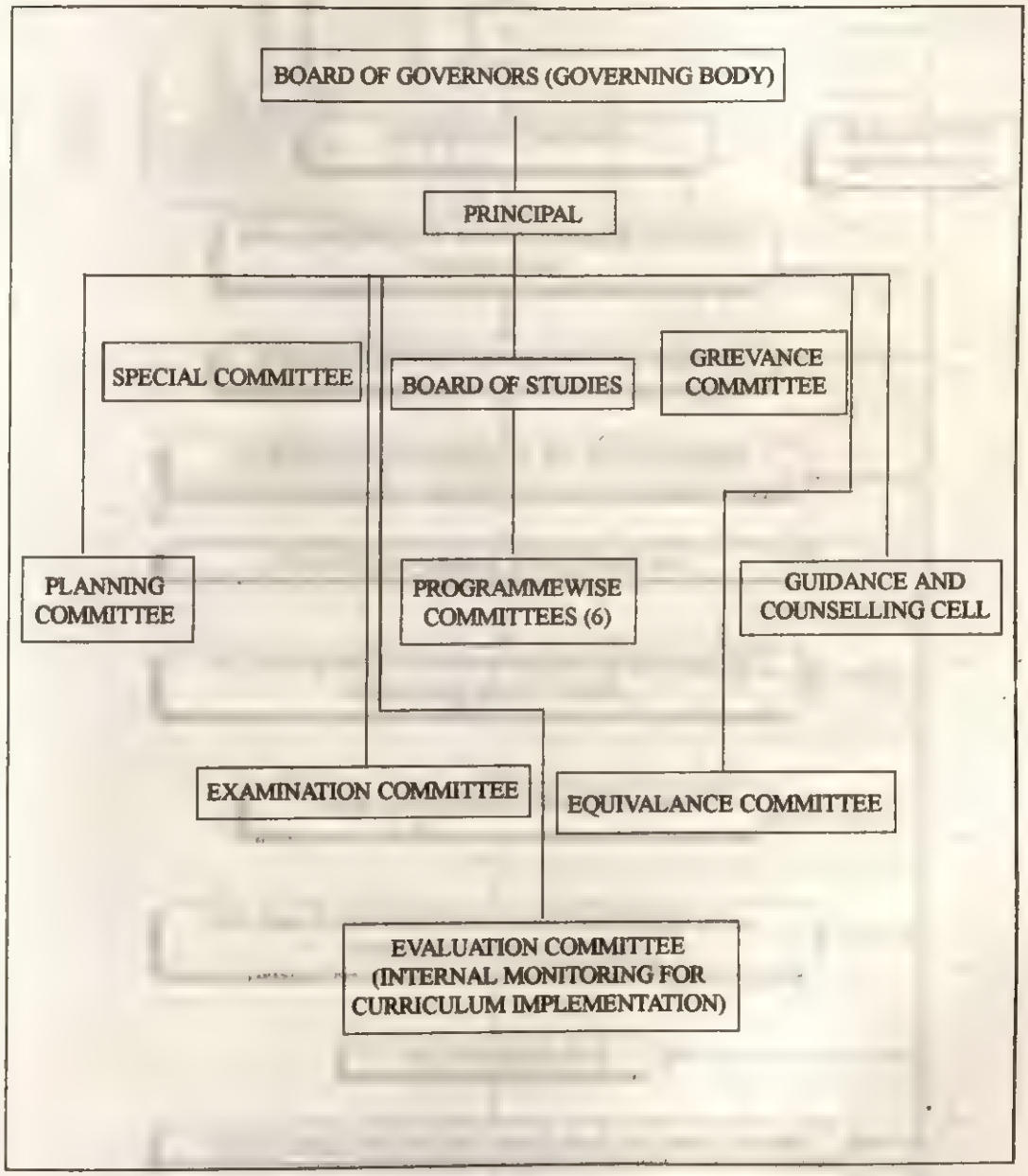
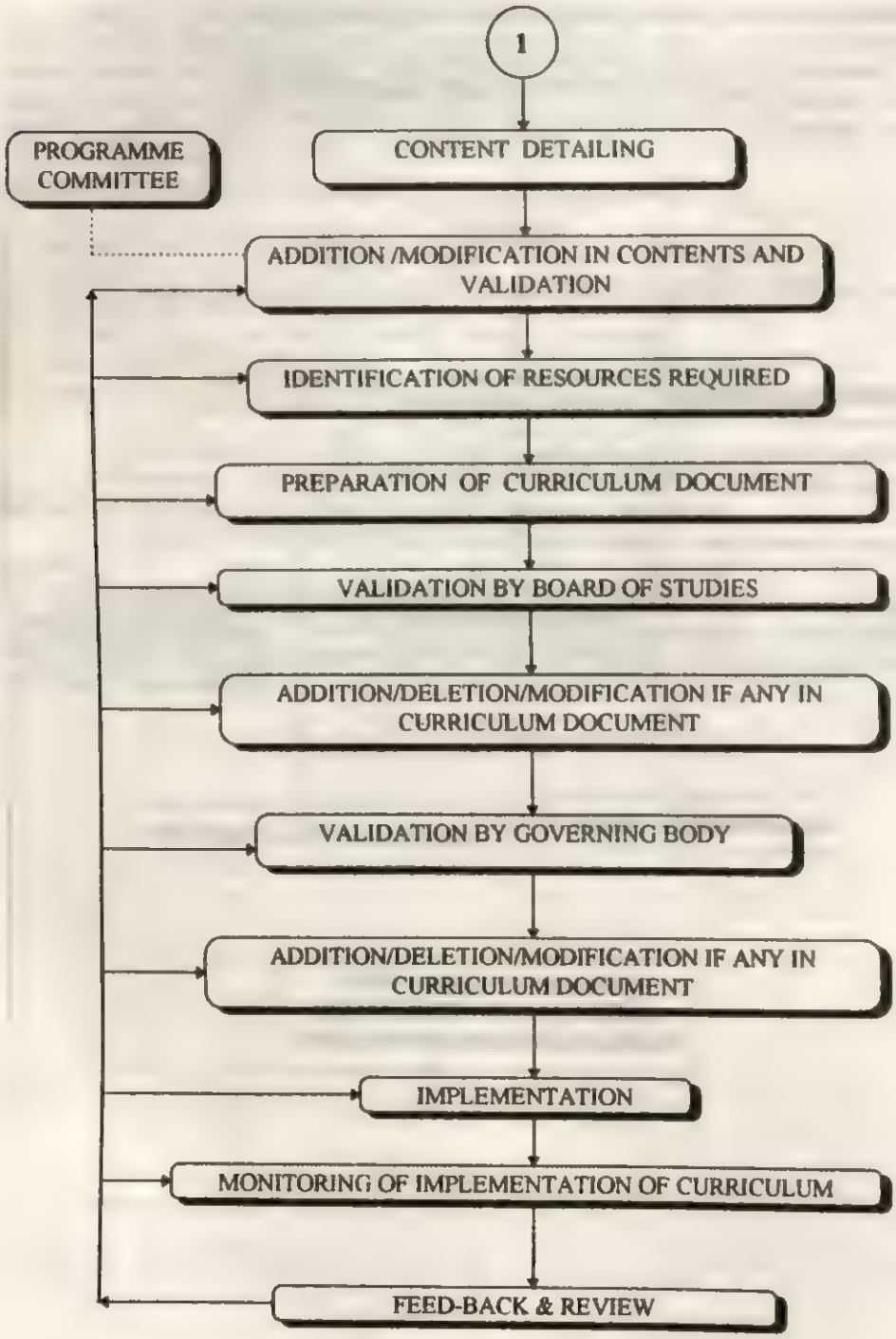

BOARD OF GOVERNORS (GOVERNING BODY)
PRINCIPAL
SPECIAL COMMITTEE
BOARD OF STUDIES
GRIEVANCE COMMITTEE
PLANNING COMMITTEE
PROGRAMMEWISE COMMITTEES (6)
GUIDANCE AND COUNSELLING CELL
EXAMINATION COMMITTEE
EQUIVALANCE COMMITTEE
EVALUATION COMMITTEE (INTERNAL MONITORING FOR CURRICULUM IMPLEMENTATION)

Figure 2



MODEL ADOPTED BY GOVERNMENT POLYTECHNIC, AURANGABAD.

Figure 3

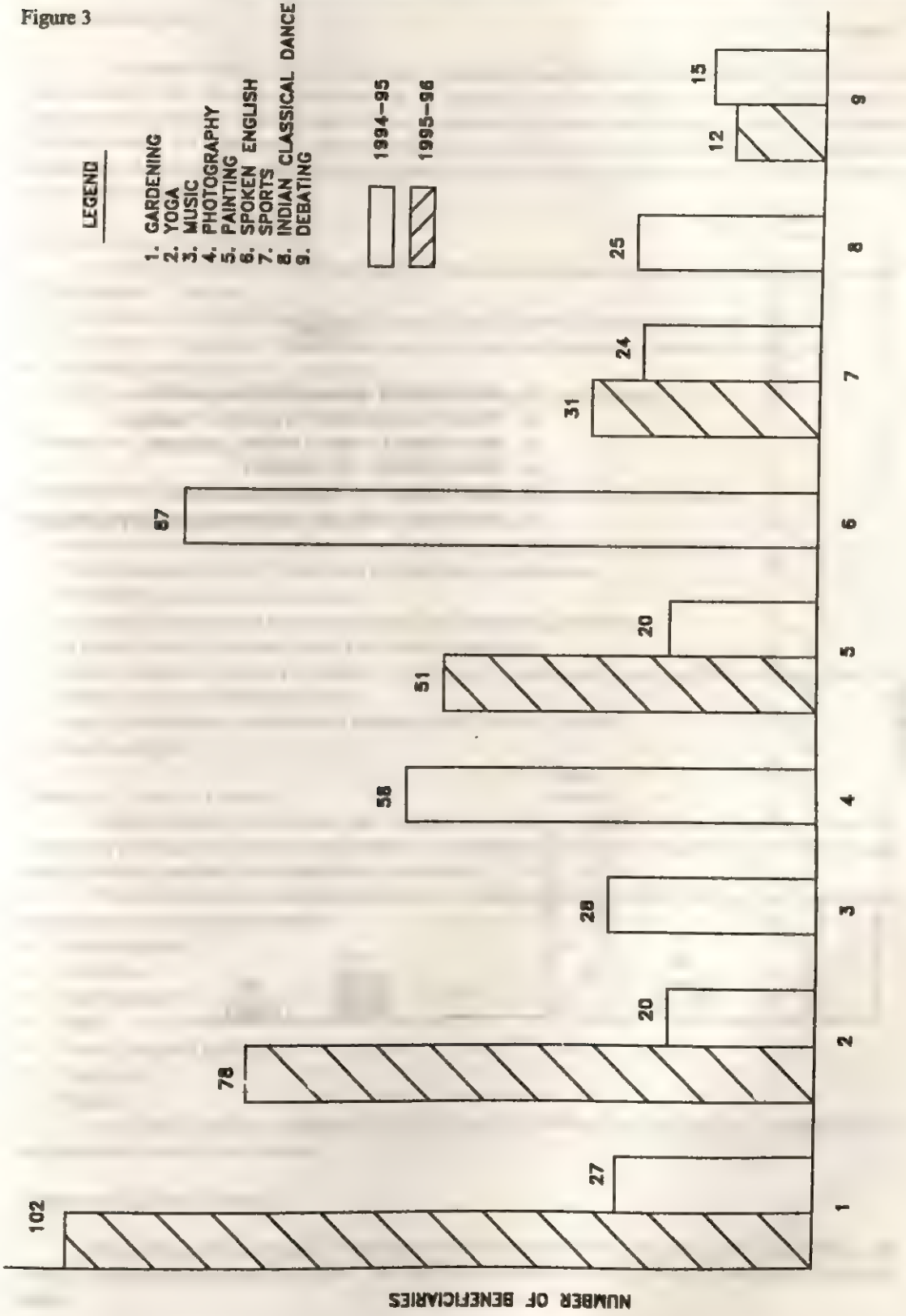
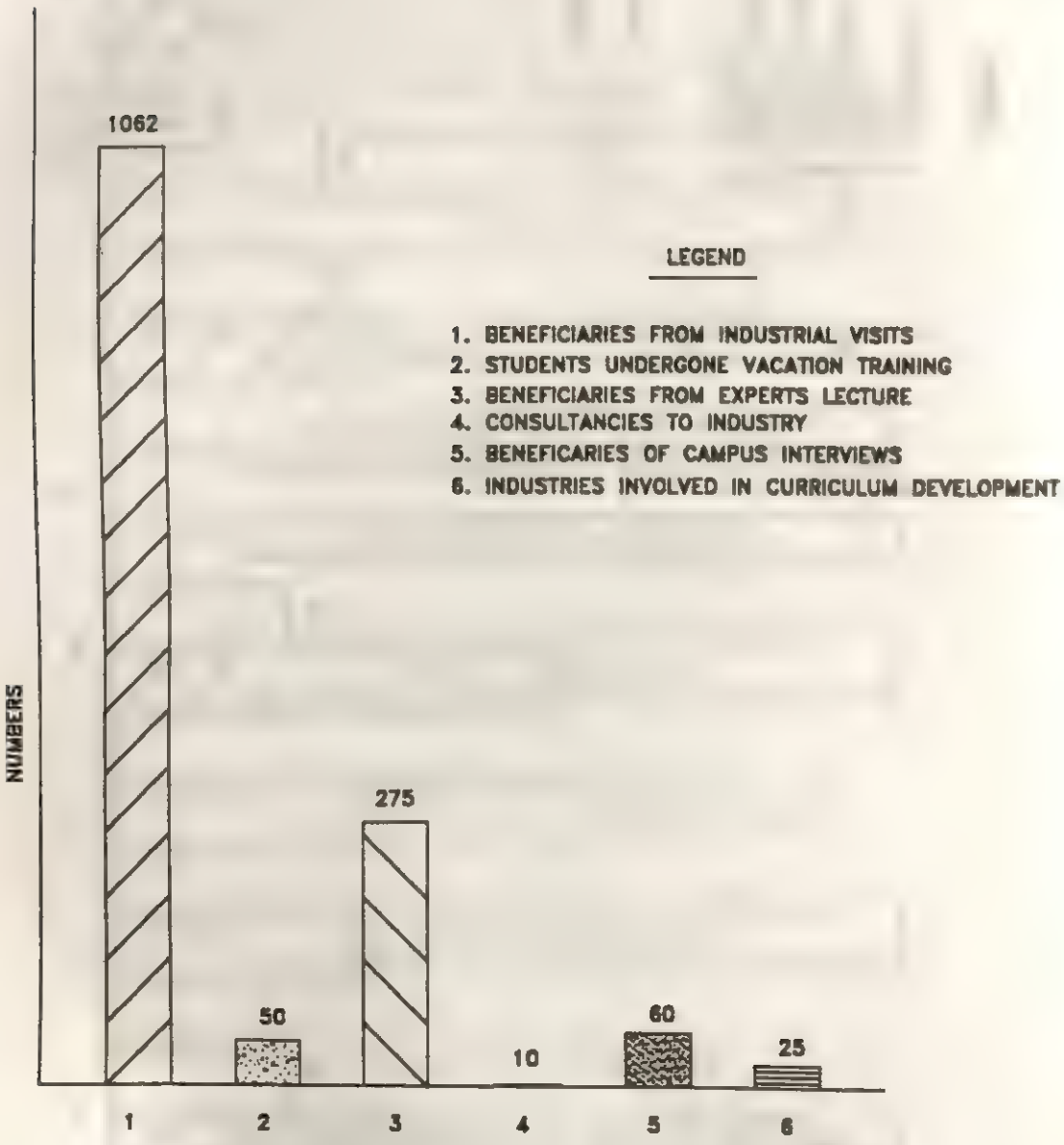

LEGEND
1. GARDENING
2. YOGA
3. MUSIC
4. PHOTOGRAPHY
5. PAINTING
6. SPOKEN ENGLISH
7. SPORTS
8. INDIAN CLASSICAL DANCE
9. DEBATING
1994–95
1995–96
NUMBER OF BENEFICIARIES
102
27
78
20
28
58
51
20
87
31
24
25
12
15
1
2
3
4
5
6
7
8
9

Figure 4


1062
50
275
10
60
25
NUMBERS
1
2
3
4
5
6
LEGEND
1. BENEFICIARIES FROM INDUSTRIAL VISITS
2. STUDENTS UNDERGONE VACATION TRAINING
3. BENEFICIARIES FROM EXPERTS LECTURE
4. CONSULTANCIES TO INDUSTRY
5. BENEFICARIES OF CAMPUS INTERVIEWS
6. INDUSTRIES INVOLVED IN CURRICULUM DEVELOPMENT

Departmental Library

The decentralization in certain areas is continuing, especially at the departmental level. One such area is library. For effective implementation of curriculum and to provide quick and ready access of instructional resources to teachers and students, departmental libraries have been established. Hand books, Refernce Books, 1-5 Codes and magazines related to each discipline have been transferred to concerned department. A faculty is in-charge of each departmental library and the day-to-day work is looked after by a laboratory technician.

Training Programmes for Students

For facilitating the overall personality of the student various training programmes are arranged for the students. These are :

- Entrepreneurship Awareness Camp (3 days - 75 beneficiaries in the past two years).
- Personality Development Programme (one week - part time)Interview Technique (1 day)
- Communication (one week - part time)
- Mock interviews (now for 5th and 6th semester students, in the evenings).

Examination Cell

An examination cell was established in the Institute with the following salient features

- Computerised student records
- Schedule for examination and date of results declared at the beginning of the term.
- Results declared within 15 days from the last date of examination
- Guidelines to question paper setters.
- Masking of examination numbers on answer books before assessment of answer books by external experts for ensuring reliability
- Question paper envelopes are opened on the day of examination, typed and after printing these are handed over to the officer-in-charge.
- During examination, the cell starts working from 6.00 a.m. onwards.
- Result analysis

'Encashing' Practical Outputs

Some laboratory experiences are designed with dual purpose. One is to enable students to understand practical application of equipments and procedures. The other is to generate resources through sale of products prepared by students during practicals.

The institute has manufactured/prepared the following goods/products during the practicals for subsequent encashment in the market.

- Wooden tables
- Steel tables
- Wooden chairs
- Truss
- Flower pot stand (steel)
- Steel grills
- Dresses

Also some practical experiences such as painting, plumbing are utilized for maintenance and developmental work of the Institute.

Organisation of Staff Training

The Institute has conducted a wide range of programmes for industry personnel, polytechnic staff and ITI staff during the past two years. The list of programmes with number of beneficiaries is given below :

i.	Induction Phase-I (Long-term) - 3 batches	90
ii.	Industrial Training (Long-term) - 2 batches	50
iii.	Curriculum Development (Short-term) - 3 batches	75
iv.	Learning Resources Development (Short-term) - 2 batches	30
v.	A-V aids preparation for ITI staff - 2 batches	60
vi.	Industrial Hydraulics for industry personnel	12
vii.	Computer Operation for Ministerial staff	17
viii.	Computer Modules I to IV (four batches)	40
ix.	CNC Machine Operation (one batch)	20

Such programmes not only utlized human resources of the institute but also helped in confidence building of teachers and implementation of developmental activities of the Institute.

The faculty of this institute has also contributed as guest faculty, during I.S.T.E. programmes. Induction Phase-I and programmes of other institutes.

Deputation of staff for seminars and Conferences

Staff of the institute are deputed for seminars and conferences organised by different organisations. This has provided impetus to many institutional development activities. In the past two years staff was deputed for :

- International Conference on Technical Education held at Mumbai (December 1995)
- National Conference on 'Vocation Training' held at Delhi (October 1996)
- Seminar on Import-Export Management (3 days)
- Seminar on Environmental Issues (1 day)
- Seminar on Entrepreneurship Development Programme (1 week)
- Leadership Development (3 days)

Internal Monitoring of Curriculum Implementation

A mechanism is established in the Institute. Written feedback is collected from students and staff on the curriculum implemented in classroom and laboratories and conduct of examinations. On the basis of analysis carried out by a Monitoring Committee comprising of Head of Departments and faculty-in-charge of CDC, necessary measures are taken.

Semester Pattern (Term Pattern)

The term pattern (semester) is adopted by the institute. It has resulted in students becoming more learning-oriented. Students have become more sincere and hardworking and their attendance and participation in curricular activities has gone up significantly.

Innovative Bullock Cart for Product Transport

The Institute has designed a new bullock cart for DILASA, a Non Government Organisation (NGO) with the primary aim of assisting farmers to transport agricultural produce to markets. This was designed by faculty of the institution and fabricated in the institutional workshop. This new bullock cart effects about 35% reduction in the weight of the cart without any reduction in capacity. This project was undertaken on a no profit basis and has been a tremendous success. DILASA has requested the polytechnic to fabricate special purpose water tanks for use in rural locations. This is direct result of the acceptance of the community as a real stakeholder of the institution.

Developing External Linkages

The number of stakeholders have increased since autonomy was granted to this institute. The linkages of institute with stakeholders has been illustrated in Figure 5, (pg. 896).

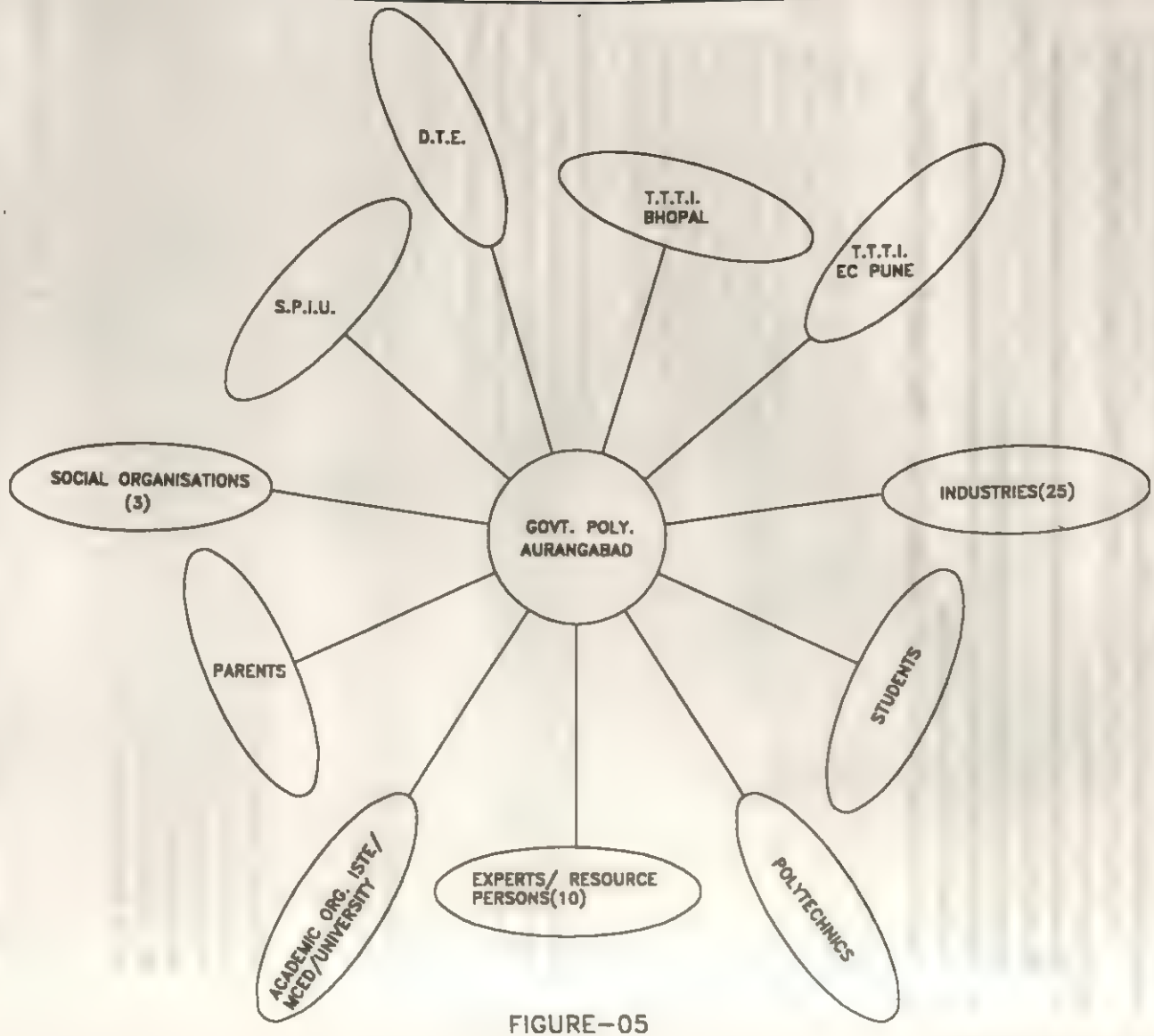
The areas of interaction with different stakeholders are, curriculum development, student development, staff training, campus interviews, industrial visits, resource procurement, expert lectures, learning resources development, curriculum implementation, examination, etc. Over the past two years, the linkages with the stakeholders are both broadening and strengthening.

Curriculum Design and Implementation

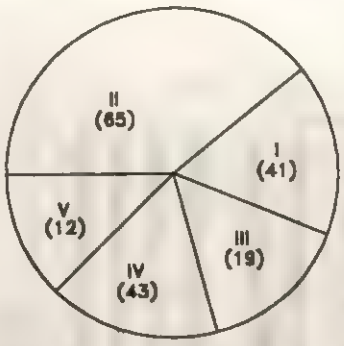
The bases for curriculum design at this institute are major skills and functions that a diploma engineer is supposed to perform in his/her professional life.

The model of curriculum design is as shown in Annexure-D (pg. 907). The following are the three major aims of curriculum design :

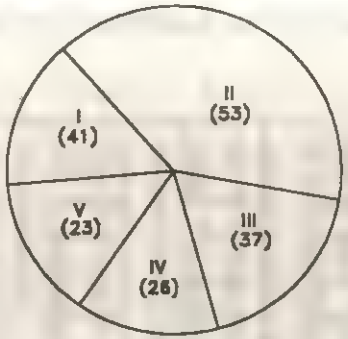
- To minimise the gap between institutional life and industrial life (in respect of practical and theoretical knowledge).
- To design laboratory experiences in tune with professional needs.
- To develop the overall personality of the student to suit individual, industrial and social needs.
- The main features of the curriculum are :
- Curriculum designed at five levels viz. Foundation, Basic, Allied, Applied and Diversified Courses.


D.T.E.
T.T.T.I. BHOPAL
T.T.T.I. EC PUNE
S.P.I.U.
SOCIAL ORGANISATIONS (3)
INDUSTRIES(25)
GOVT. POLY. AURANGABAD
PARENTS
STUDENTS
ACADEMIC ORG. ISTE/ MCED/UNIVERSITY
EXPERTS/ RESOURCE PERSONS(10)
POLYTECHNICS

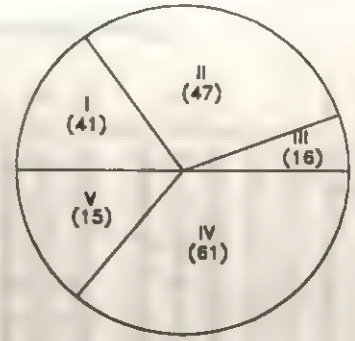
FIGURE–05



6(a) CIVIL ENGG.
TOTAL CREDITS:180

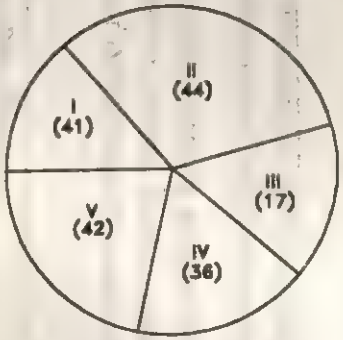


6(b) MECH. ENGG.
TOTAL CREDITS:180

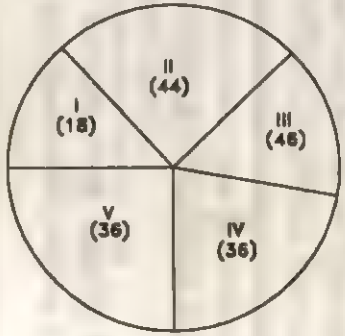


6(C) ELECTRICAL ENGG.
TOTAL CREDITS:180

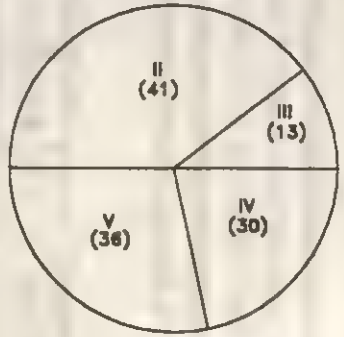
I. FOUNDATION COURSES
II. BASIC COURSES
III. ALLIED COURSES
IV. APPLIED COURSES
V. DIVERSIFIED COURSES



6(d) IND. ELECTRONICS
TOTAL CREDITS:180

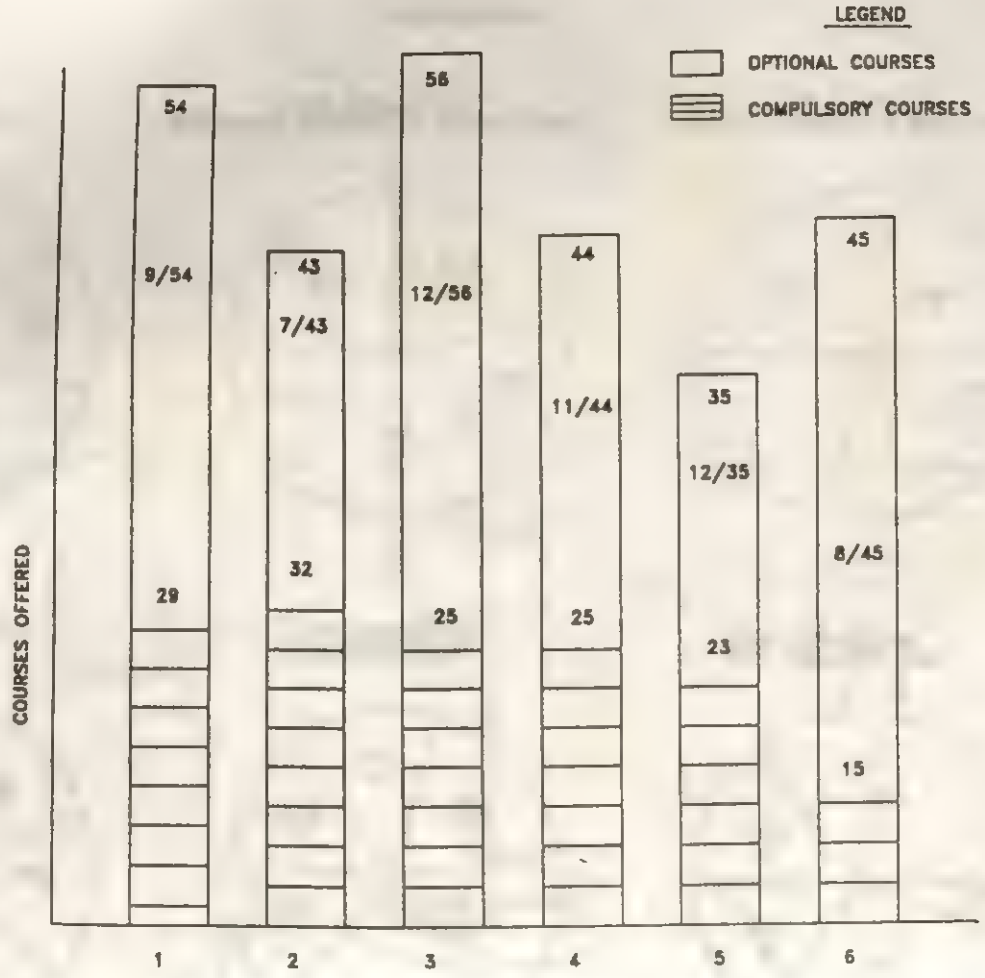


6(e) DRESS DESIGNING & GARMENT MANF.
TOTAL CREDITS:180



6(f) ELECTRONICS & RADIO ENGG.
TOTAL CREDITS:120

FIGURE–06



FIGURE–07 COURSES IN DIFFERENT PROGRAMMES

Institute of Education, Rural Studies and Development (IERSD)

- Institute of Education, Rural Studies and Development (IERSD) has been set up by Howrah Rural Teachers Forum, a voluntary organization registered under Societies Registration Act of 1860, with its headquarters at Udang. IERSD is devoted to holistic development of rural society through research and development projects.

- IERSD maintains a massive computerised information system on about 50,000 people in its project area for micro-level planning; this is the only such rural information system in this part of the world. This has attracted large number of national and international experts; this has been extensively covered by international news agencies, e.g. San Jose News of California.

- IERSD hosted the massive World Conference on "Education India: The Next Millennium" in November, 1997 in New Delhi in collaboration with several national and international agencies and the NGOs. The conference was addressed by Prime Minister, Minister for Human Resource Development, Finance Minister and several other public men. The conference was regarded as the Education Sector Event celebrating 50 years of Indian Independence. The Conference was covered by all national newspapers, international publications from several countries, government and private channels of television and radio. The massive three volume report and proceedings is the doyen of many major libraries in India and abroad.

- IERSD's next major project is "Education India: The Fifty Years" -- the commemorative volume on the Golden Jubilee of Indian independence.

- IERSD is credited with India's largest experimental project ever – an experiment with 6403 rural primary school children and more than 150 teachers for four long years.

- IERSD's fifth, in a sequence, forthcoming project is the magazine, Indian School Education for improvement of Indian school education.

- IERSD undertakes innovative dissemination projects including authoring, editing and publication of reports, books, journals and magazines with the sole objective of improvement of society in general, education in particular.

Vill & P.O. Udang, Dist. Howrah,
Pin. 711401, West Bengal
Contact Telephone: 91-11-6102311

- Practical Orientation to courses.
- Practical (professional)orientation to laboratory experiences.
- Compulsory industrial visits (II and IV terms weekly).
- Non-examination credit courses.
- Credit system.
- Guidance for curriculum implementation.
- Flexibility (more optional courses).

The active participation of 42 experts (25 from industry) has helped the CDC of the institution in developing the curricula for various programmes.

Programme flexibility helps the institute to design and offer courses as per the needs of industry and society. Further, students have the freedom to select/opt for courses of their interest. Also, diversified courses are offered in a particular programme and specialization is possible. Since special needs of industry are catered to, the passout of the polytechnic is generally well-qualified to enter the world of work.

The level-wise and programme-wise credits are as shown in Figure 6(a) to 6(f) (pg. 897). The extent of flexibility to the students is as mentioned in Figure 7.

Certification of Students

The project is implemented alongwith programme flexibility through multipoint entry and credit system. A student has to acquire 180 credits (120 for DERE) for becoming eligible for the award of a Diploma.

For awarding class (at present for DERE only) the marks obtained by the student in courses at applied and diversified levels are considered. After successful completion of diploma programme (i.e. earning 180 credits), diploma is awarded by the institute.

Internal Resource Generation

Internal Resource Generation (IRG) is an area in which institute is striving very hard to show progress. Resources are being generated through :

- Continuing Education Programmes for industry
- Short-term Computer Programmes for general public
- Staff Development Programmes
- Material Testing and Repairs
- Sale of Publications
- Consultancy services to industry/society
- Sale of Products (prepared during practicals)
- Student Projects

The institute has also made 100 industries aware of the potential available in the institute for mutually beneficial activities. It has also planned to establish a "TEST HOUSE" in the institute. The ITI cell is busy in identifying the continuing education requirements and consultancy services required by industry surrounding the institute.

Major Achievements since becoming Autonomous

Internal Autonomy

Since 1994, when the polytechnic was accorded autonomy, there has been a continuously growing trend toward internal autonomy, exercised not only by the institution but also by functionaries at different levels. The major outcomes of actions that have resulted in this shift in institution governance and management are :

- inclusion of faculty in different committees set up in the institution as part of its governance structure (publication cell, equivalence cell, continuing education cell, ITI cell);
- all academic decisions have been delegated to Heads of Departments. In making such decisions, a heavy involvement of departmental faculty is ensured;
- by and large, decisions related to participation in seminars, conferences and to serve as resource persons to other organisations are made by the faculty itself;
- faculty has been empowered to visit industries using the institute vehicle, collect learning resources or information for preparing Learning Resources (LRs) and distribute LRs to students;
- faculty and in many instances the technical laboratory staff have been provided the freedom to purchase items required in laboratories upto Rs. 500 at a time; and
- departmental libraries have been established and the departments are empowered to procure appropriate books and journals.

Promotion of Passout Employment

The institution has accepted students as a most significant stakeholder and has assigned a very high priority to their need for obtaining employment soon after completing the diploma programme. The actions that have taken in this regard are:

- significant enhancement in the number of campus interviews. During 1995-96, five major and medium-scale industries selected 50 students through campus interviews (the target for 1996-97 has been set for campus interviews by 20 industries and for selections of 100 students).
- a full-time T.P.O. is in position with a well-equipped section to improve institutional performance in this vital sector.
- training of students, beyond curriculum, in taking interviews, including in acquiring Communication Skills. In 1995-96 every student in the institution had an opportunity to be a `mock' interviewee. This activity will be continued and in fact intensified since practice-feedback cycle is the only way to acquire interview-taking skills.
- conduct of Entrepreneurship Development Programme by HRD consultants to promote self employment ventures by passouts. Seventy five students took advantage of such programmes in 1995-96. Efforts to improve the effectiveness of such programmes have been initiated this year.
- learning laboratories have been shifted from institution premises to industry and other field locations and are now being utilised in a unique way, where the `trainers' are mostly field professionals and the students demonstrate skills they are expected to acquire. A by product of this approach is the performance of institutional tasks that are normally performed on payment basis by external agencies.

Industry-Institute Interaction

The establishment of intimate and effective linkages has been supported by the accord of autonomy. The variety of linkages is indicated by the diverse ways in which industry is participating in the governance of the institution and in the various facets of curriculum design and implementation. These are :

- membership in the Board of Governors (5 out of 10)
- membership in the Board of Studies (Chairman is from industry as also four members).contributions to the deliberations of programme-wise committees (15 industry experts).
- expert lecturers (about 7 extension lectures by industry experts and around 300 subject lectures by industry professionals).
- guidance to student trainees in industry (all students avail of this provision, two weeks between terms i.e. four times during their diploma studies).
- campus interviews.
- guidance in industry-based practicals - currently 30 industries are participating in this academic activity related to 3 diploma programmes. About 20% of laboratory work in these three programmes are industry-located and efforts are on to increase this proportion to 30% and to extend the activity to the other three programmes.

- currently 10 industries are taking advantage of the consultancy services offered by the institution. The target for the next three years is an increase of 50% annually. In this regard, 200 industries have been educated on the institutional potential and the autonomy the institution enjoys. Further, dialogues have been initiated.

Promotion of Media Usage

The significance of media usage in learning is no longer in doubt. The institute has achieved significant progress in this area which are as follows:

- A media room fully equipped and operational is now available. In fact the utilisation factor of this room today is over 90%.
- Each of the six departments has an OHP and this is being used most of the time.
- Learning Resources are being procured by the LRUC and transferred to departments to enhance accessibility. In 1995-96, over Rs. 35000 worth of Learning Resources were procured.
- LRUC has a computerised inventory of LRs.
- A beginning has been made in the preparation of LRs in 1995-96, 2 video programmes and about 10 transparency sets were prepared. Work in this area will be intensified.
- Over 30 faculty of the institution have been trained in the preparation and use of LRs.

Linkages with External Resource Persons

Effective linkages have been maintained with external resource persons in the substantive environment of the polytechnic. These linkages include activities like;

- Conduct of personality development programmes from experts in society.
- Services to DILASA, an NGO.
- Education of user systems through an institution-developed video programme.
- Blood donation by students, staff and faculty.
- Professional services offered to external organisations.Joint projects and ventures.

Documentation of Innovation

The polytechnic has realised the importance of documenting its experiences with the introduction and utilisation of autonomy and the interest that would be shown by other educational institutions in this experiment. So it has started preparing and publishing all documents with in the institutional itself. And to facilitate this, a publication cell too has been established. It is gratifying to note that the institutional publications have made the experiment 'open' and available to all interested organisations. Even persons in their individual capacities have purchased institutional documents.

The documents published are:

- Implementation of autonomy at Govt, Polytechnic Aurangabad.
- Curriculum (for all programmes).
- Progress Reports
- Prospectus
- Learning Material (handout) for computer science course.
- Certificates (for training programmes).
- Application forms for admission to Part-time Diploma Programmes.

The documents have been purchased by:

1. Autonomous polytechnics of Maharashtra.
2. Government, Aided and Private Polytechnics.
3. Engineering Colleges, Universities, other educational institutions.
4. Polytechnic teachers.
5. Persons interested in technician education.

6. Students.

Internal Resources Generation (IRG)

The institution has been keeping in mind the need to generate resources for growth and development of the institution. The sources of IRG are:

- need-based continuing education programmes, especially for acquisition of skills, for industry personnel.
- short-term programmes in areas like use of computer software, repair of electrical fixtures and gadgets to the general public.
- conduct of induction and other staff development programmes for faculty/staff of M.S. Polytechnics.
- Testing and Repairs for 10 industries.Sale of Documents/Publications.
- Consultancy Services to industry/society, including design and fabrication of special purpose equipment.
- Value of products from practicals.

The IRG for 1995-96 was Rs. 2 lacs. This shall definitely show increasing trend in the years to come.

Changing Role of the Institutions

The accord of autonomy to the institution has served as a `tonic' to the functionaries, methods of thinking and action. No longer do they consider themselves only individuals but as part of teams, all utilising the scope and privilege to contribute to the success of the experiment, to the signal achievements of the past two years and to lead the institution into becoming a Centre of Excellence. In fact, the institution has derived, through faculty and staff, a Mission Statement.

MISSION STATEMENT

TO CREATE MULTIDISCIPLINARY BEST CITIZENS TO SUIT THE LOCAL, STATE, NATIONAL AND INTERNATIONAL NEEDS HAVING SCIENTIFIC TEMPERAMENT, MORAL ETHICAL VALUES AND MULTIFACETTED, PROACTIVE PERSONALITY BY PROVIDING EXCELLENT EDUCATIONAL SYSTEM.

The additional role dimensions that have now become part of the institutional role are:

- to communicate with other teams and individuals, to prevent gaps and overlaps,
- to enhance `practicals' orientation of all diploma programmes,
- to evolve and install passout employment system in the institution,
- to sustain and strengthen mutually-beneficial linkages with industry including sharing of resources,
- to develop a Mission Statement and appropriate objectives for the institution for the twenty first century and to strive for the achievement of objectives,
- to promote decentralisation of decision-making and, consequently, to enable functionaries to assume greater responsibilities,
- to document implementation of the experiment both to make the experiment `visible, to all and to disseminate achievements to society at large,
- to generate resources for institutional growth and development,
- to reformulate role of the institution on an annual basis to cope with the changing internal and environmental scenarios, and
- to promote team building

Annexure - A

Major Roles of Various Bodies/Committees

Governing Body: This body is responsible for all academic and other administrative affairs of the institution such as framing of academic policies, approving curricula, regulations etc.

Board of Studies: Board of Studies is responsible for prescribing and recommending the curricula for various courses/programmes.

Programme Committees: They are to design curricula for various courses, reviewing & updating curricula as per requirements from time to time and introducing new courses.

Examination committee: This will recommend panels for appointment of examiners for the end-of-term examination, ensure conduct of examinations, announce results and carry out certification of passouts.

Special Committee: This will decide action to be taken in cases of misbehaviour of students in examination work.

Planning Committee: This Committee is to prepare the five-year and annual academic & developmental plans of the institute.

Evaluation committee: The role is to manitor curriculum implementation and to suggest remedial measures.

Equivalance Committee: This Committee will grant exemption to courses and decide equivalance of courses.

Grievance Committee: This will handle all grievances and recommend solutions/actions.

Guidance & Counselling Committee: This committee is to lay down policies for the guidance and counselling of students related to selection of courses/career options/and other situations.

Annexure - B

Main Features of Autonomy at Government Polytechnic Aurangabad

MULTIPOINT ENTRY, FLEXIBILITY AND CREDIT SYSTEM
STAFF INVOLVEMENT
SUPPORTING TOP LEADERSHIP
DEPARTMENTAL DECENTRALIZATION
PARENT INVOLVEMENT
STUDENT INVOLVEMENT
INNOVATIONS IN TEACHING LEARNING PROCESS
CONTINUOUS ASSESSMENT
NON-EXAM CREDIT COURSES
HIGH INTERACTION WITH INDUSTRY AND SOCIETY
DEPARTMENTAL LIBRARY
WIDE RANGE OF TRAINING PROGRAMMES FOR STUDENTS OVERALL DEVELOPMENT
EFFICIENT EXAMINATION SYSTEM
RESULTS DECLARED WITHIN 15 DAYS AFTER EXAMINATION
DEVELOPMENT OF INTER-DISCIPLINARY AND INTER-LEVEL TEAMS
'ENHANCING' THE OUTPUTS OF LABORATORY AND WORKSHOP ASSIGNMENTS
DESIGN AND IMPLEMENTATION OF A WIDE RANGE OF TRAINING PROGRAMMES FOR INDUSTRY AND STAFF
ACTIVE INVOLVEMENT OF INDUSTRY PERSONNEL IN CURRICULUM DEVELOPMENT
DEPUTATION OF STAFF FOR SEMINARS AND CONFERENCES
INTIMATE LINKAGES WITH VARIOUS STAKEHOLDERS
PRACTICAL ORIENTATION TO COURSES
COMPULSORY INDUSTRIAL VISITS
PRACTICAL ORIENTATION TO LABORATORY EXPERIENCES
DIVERSIFIED COURSES

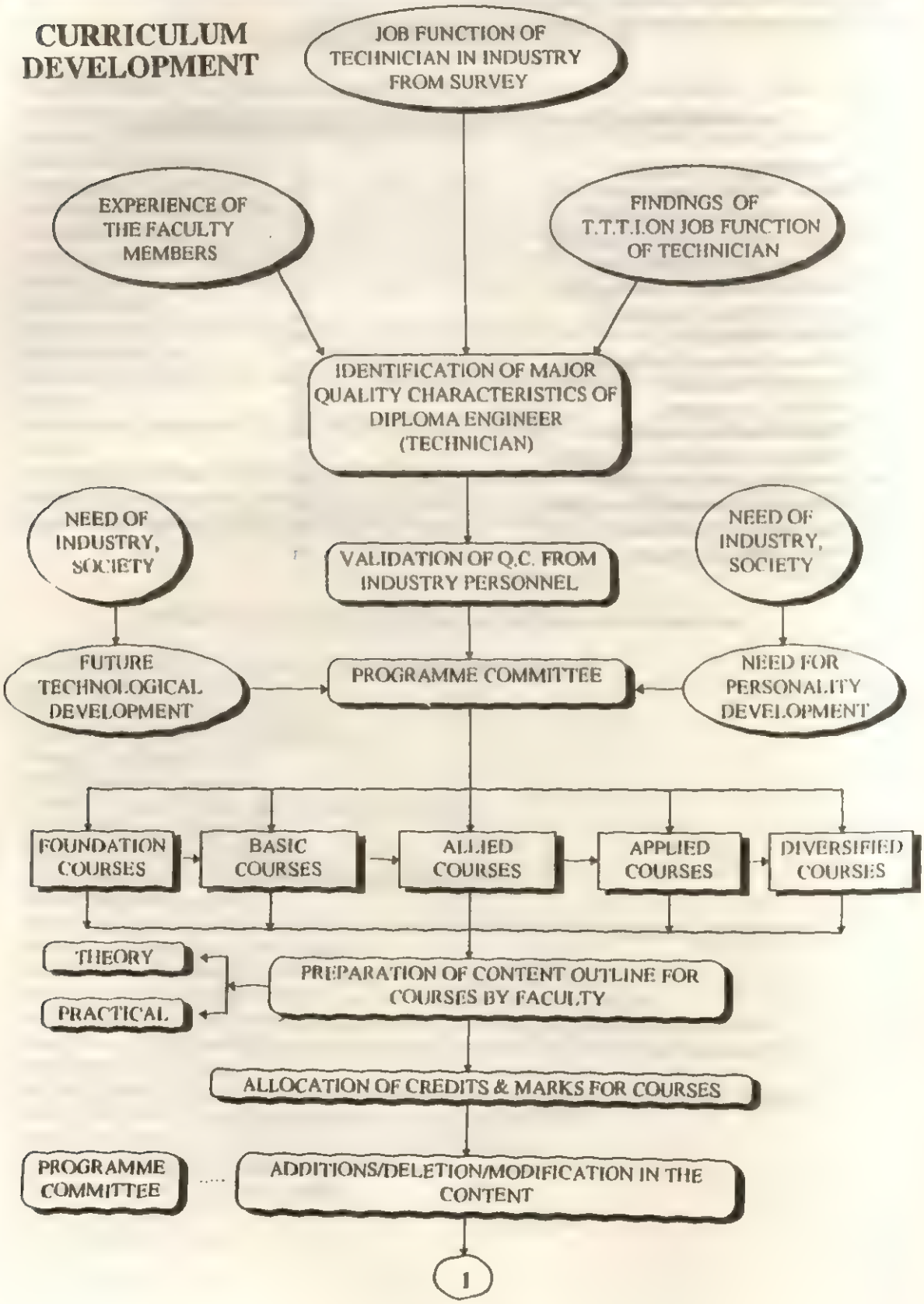
CHOICE OF COURSES OPEN TO STUDENTS
INTERNAL MONITORING OF CURRICULUM IMPLEMENTATION

Annexure - C

List of industries and Number of Persons Involved in Curriculum Development

1.	Demco Sleepers, Aurangabad	01
2.	Garware Polyster, Aurangabad	01
3.	Nirlep Industries, Aurangabad	01
4.	District Industry Centre, Aurangabad	01
5.	Verma Associates, Aurangabad	01
6.	Gleitagor (India) Ltd., Aurangabad	01
7.	Luans Industries, Aurangabad	01
8.	Meltron, Aurangabad	01
9.	Godavari Garments, Aurangabad	01
10.	WALMI, Aurangabad	02
11.	M.S.E.B., Aurangabad	02
12.	Deepa Chemicals, Aurangabad	01
13.	Videocon International, Aurangabad	03
14.	Forbes India Ltd., Aurangabad	02
15.	Architech & Consultant, Aurangabad	03
16.	Bajaj Auto Ltd., Aurangabad	02
17.	Thakre Tailoring, Nagpur	01

CURRICULUM DEVELOPMENT



Importance of Multimedia In Engineering and Technology Education

P S Avadhani[1]

Introduction

The rapid industrialisation and growth in all sectors necessitated the need to have more dynamic and novel methods in teaching. The conventional classroom teaching is not sufficient to meet this need. Moreover, the conventional classroom methods have major set back of having an efficiency gap between the teacher and the student. As far as communication of information is concerned, this is more so in engineering and technology education. The raid growth of computer and information technology seems to have suggested an answer for the above problem. As technology advances, the major requirement in implementing the technological change is social acceptability.

Computer assisted instruction is one of the major concepts that came to the rescue of engineering and technology education. The rapid advancement of computer and communication education. The latest in those is multimedia techniques in engineering education. This concept of multimedia usage in education requires a fresh look at the pattern and the curriculum of education, the social and financial aspects in its implementation.

Present Scenario of Engineering Education in India:

There are six I.I.Ts producing world class engineers. There are about 500 engineering degree colleges producing 1,00,000 engineering degree holders annually, about 1500 polytechnics producing about 2,00,000 engineering diploma holders. There are about 4,000 craftsmen course institutes producing 5,00,000 certificate holders. These candidates cater to the needs of various industries in different specialisations and skills. In addition to this, there are standard examinations for private candidates in all the three categories mentioned above, which contribute about one third of the above figures as far as candidates are concerned.

In India the technical manpower in different grades is generated by engineering colleges, polytechnics and industrial training institutions.

The word multimedia simply means being able to communicate in more than one way. For example, a mimicry artist mimics the sounds and actions of various things to communicate. These are some of the ancient simple multimedia systems. Later the drawings and physical models have come into existence to make the implications important. The present computer assisted instructions using multimedia takes into account the sound effect, the video technology, full vector graphics, drawings and text. The capacity of each individual student to understand, memorize, assimilate and retrieve any information, knowledge and concept vary from that of another student.

It is here that most of the conventional classroom teaching methods fail to deliver the needed results. An intelligent student might be able to grasp better than an average student and he/she in turn will be able to grasp better than a below average student. This is due to the fact that a person may have better perception skills in one of these things than the other. With the advent of multimedia it is possible to invoice these perceptions and make them learn fast.

Multimedia techniques can be viewed as "n-dimensional" depending on the capacity of the multimedia. For example, the conventional classroom teaching may be treated as a zero dimensional multimedia technique. A classroom teaching coupled with various physical models may be treated as one dimensional, and integrating this with motion video is three dimensional and present multimedia which integrates with graphics etc. may be viewed as the fourth dimension. In theory we can still have more dimensions. The purpose of the multimedia techniques will be to accelerate the understanding, assimilations and retrieval of information and knowledge.

[1] Reader, Department of Computer Science & Systems Engineering, Andhra University, Visakhapatnam - 530 003, Andhra Pradesh.

The effect of multimedia will be to reduce the time between a doubt and an answer as less as possible time with convincing logic. It will reduce the time gap for any student in learning and it will enthuse him/her to learn more and more creating interest in any specific field. At present it can be safely construed that a course of one year can be reduced to six months duration using the modern technological methods in teaching to cope with the knowledge explosion.

Introduction of Multi-media in Engineering Education:

Along with the recent technological developments in communication networks, it is necessary to have well trained technical manpower at the rate of technological development. This is only possible through the introduction of the Multimedia. The communication technologies like Internet have given a new dimension in education field and connecting various technologies to suit the development of education.

Conclusion:

It is still costly to implement multimedia in education in India. The introduction of multimedia in third world countries requires a careful study to have the social acceptability. The economic implications, the financial constraints, the lack of trained technical manpower to deal with multimedia in education are to be taken into consideration while taking about the introduction of multimedia in the field of education. Though multimedia techniques yield better perceptions, a careful preparation of curriculum is required while introducing it.

Computers in Education

Intel*

"Education is the kindling of a flame and not the filling of an empty vessel."
—Socrates

As the centre of the global economy shifts to the Asia Pacific basin, the region is witnessing a technology upheaval with computers fast becoming firmly entrenched in every form of business. With few legacy systems slowing them down, the Asia Pacific economies are fast leap-frogging their American and European neighbours to integrate the latest technology in both the private and public sectors. As such, with technology becoming an indispensable tool for the growth process, the need to address computer literacy amongst its populace to sustain growth in the next millennium is becoming inevitable. It is but a natural step for these societies to begin implementation of technology at the grass-root level - initiate computer literacy in the education system itself.

As in other Asia Pacific countries, in India too the trend to embrace information technology in the education system is becoming increasingly critical, as it is becoming evident that the widespread deployment of IT in the country and the development of a *technology savvy workforce* will be key to India's success in the twenty-first century.

Today thousands of families are interested in making technology a part of their lives. A definite perceptual shift has taken place toward computer being seen as a versatile and essential tool for working and learning!

Educationists and parents are in an excellent position to foster the usage of computer technology among children and play a key role in the development of tomorrow's workforce. Their objective is to ensure that their children are equipped for an information-based economy. This investment by them now will have a far reaching impact as children grow up in the years to come and contribute to the economy.

Intel's charter in India is to increase the usage of computers across different segments and catalyze the adoption of the latest computer technology across all segments from business to healthcare to education. With this in mind, Intel has been playing a proactive role in India in increasing the usage of computers in business, homes and education institutes.

Computers & the Pacific Century

In the next millennium, societies that are computer literate will be poised to take advantage of the tremendous opportunities information technology will bring to the global economy. We are rushing headlong into the Pacific century - a millennium where East Asia and the Indian sub-continent will become, by their sheer size, the largest economic trading blocs and markets in the world[1]. Government spending on information technology in education and training will become a key indicator by which these nations will compete with one another for economic growth and prosperity.

Yet for all the promise of economic growth in the next century, India spends far less on information technology and their application in education than most of the world's largest economies. In the Bear Stearns Analyst Report, 1995, India was ranked 23 in IT spending as a percentage of GDP. This represents less than 0.68% and of total spending as compared to 3.13% for the United States, 2.55% for the United Kingdom, and 1.93% for Japan. This is backed up by similar research findings by IDC (see graph below)

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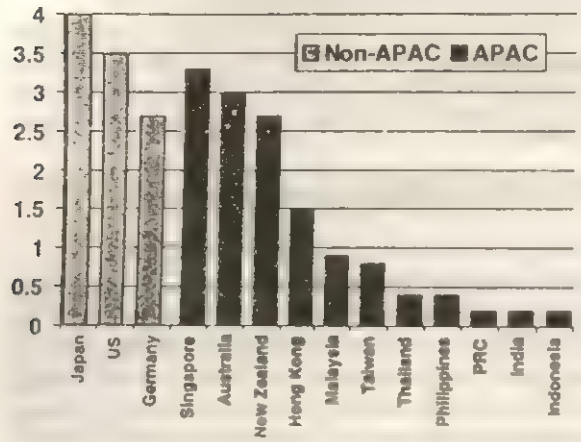
[1] China, for instance, was the largest single source of incremental world trade growth in 1994, according to a 1995 World Bank report. The report adds that many high technology industries in the future will find their largest and most rapidly growing markets in this region.



According to IDC, the percentage of computers installed in middle income households in major cities in India in 1996 averaged 14%[2]. This compares to other Asian economies like Singapore (20.3%) and Malaysia (19.2%).

This trend, undoubtedly is a clear indication that investment in IT is a key factor to the economic success of a country and if India wants to remain in the race for economic supremacy, it needs to accelerate the deployment of information technology in all spheres with increased spending on IT.

Computer Literacy Trends

The rapid changes in computing technology over the last decade have enabled educators to define computer literacy as one with four major components:

a. Knowledge of a functional use of computers for problem-solving.
With the right software, computers can assist in analysing problems and providing solutions. In fact, this 'Project-oriented learning" is an increasingly popular teaching method, in which students learn through doing and teachers act as facilitators.

b. Knowledge and skill in operating a computer using a library of generic programs.
This is the ability to operate a personal computer, to use a word processor, spread sheet, database and presentation software are the basics of any computer literacy program.

c. Knowledge of the exciting capabilities of the Internet that is fast dissolving the boundaries and shrinking the world into a global village. With the right kind of training, children can use computers to source information through the Internet from the world over, and deploy the high-powered computer to application that tap their creative capabilities.

d. Knowledge of various ethical and social issues relating to the use of computers.
This requires the computer user to make a judgment call on various issues regarding the use of computing technology and its applications. For example, is it right to make pirate copies of software even though you plan it at home only.

India is at the threshold of the integration of these four components, and its integration has been successful in the rest of the world. In a US survey of elementary teachers, 94% believed that computers and computer technology are powerful motivators for getting today's students more interested in their classwork and assignments[3].

[2] 1995 Tenth Planet Teachers & Technology Survey.

[3] 1995 Tenth Planet Teachers & Technology Survey

Furthermore, according to a US Presidential task force on 'Connecting K-12 Schools to the Information Superhighway"[4], one "meta-analysis" (a study that reviews other studies – in this case 130 of them) reported that computers had improved performance in "a wide range of subjects, including language, arts, maths, social studies and science." Another found improved organization and focus in students' writing. A third cited twice the normal gains in maths skills. Several schools boasted of greatly improved attendance.

According to a study done by NIIT in several schools in India, it was clearly demonstrated that usage of multimedia computers to teach subjects like set theory, physics, biology, etc., resulted in a significant improvement in the performance of the children.

Given below are the results of a validation test conducted by NIIT on students in the age group 13-15 on Set Theory using a multimedia software called Hunt for Setonica.

TOPIC	PRE TEST SCORES (%)	POST TEST SCORES (%)
Set Definition	38.8	66.6
Cardinality	33.33	85.85
Finite Set	77.77	94.44
Infinite Set	66.66	94.44
Union	55.55	85.88
Difference	16.16	61.11
Intersection	10	1000

The above test was conducted in four schools in Delhi among 130 students. Average scores of a group of students on the different units of the topic 'Set Theory" were calculated through a test before using the software and compared with average post teaching scores in the same subject using the software and multimedia computers. The post use scores were much higher, showing better subject understanding when taught using multimedia computers.

How Can Teachers Help?

Albert Einstein once said, 'It is the supreme art of the teacher to awaken joy in creative expression and knowledge.''

Computers are and can be used as complementary tools to the classroom ... and in many countries, computer skills are increasingly seen as critical to a child's development. The changing business landscape and workplace is already affecting employment in many developing countries. The shift to an information-based economy will require future workers to be more flexible and better trained. Businesses will require schools to turn out students with a new set of 'technology" skills - skills that empower the organisation with greater productivity to compete in the new economy.

Indeed, at The New Technology High School in Napa, California (a school where a computer sits on every student's desk), the notion that educational benefits of having computers integrated within a child's development can be highly beneficial to that person's future career are a core concern. Robert Nolan, a founder of the school has been quoted as saying, "We wanted to create an environment that mimicked what exists in the high-tech business world. Increasingly, business leaders want to hire people specifically trained in the skill they need."

High-tech children 'think differently from the rest of us," William D. Winn, the Director of the Learning Center at the University of Washington's Human Interface Technology Laboratory, told

[4] Produced by the consulting firm McKinsey & Co.

Business Week in a recent cover story on the benefits of computer games. 'They develop hypertext minds. They leap around It's as though their cognitive strategies were parallel, not sequential "

In the last one year, there is an increasing shift towards using multimedia computers as a tool for teaching in schools in India, as more and more educationists discover a significant difference in the performance of children when taught through the use of an interactive medium.

"We realize that tomorrow's world is one of knowledge and if our children are not competitive enough to use the computer as a learning tool, they would lose out in the race," says Mrs. Gowri Ishwaran, Principal, Delhi Public School, East Kailash, "At the end of the academic year it has been a very satisfying experience to see that there has been tremendous increase in the output in the relevant subject after integrating computers in the curriculum. Most important fact is the demystification of the computer for the staff and child; there are around 30 staff members who are competent to take classes. This has not only helped teaching but it has changed the outlook and attitude. Science and machine are no longer fighting the teacher or even the student."

'The main thing was that in class when we make a mistake, we feel like crying as all our friends know our mistake, whereas in computers we can do as many mistakes and don't feel ashamed of ourselves because only me and my computer will know the mistake", a class III student said on being asked why she liked studying through multimedia computers.

What Can Parents Do?

Parents play a big role in ensuring their children get a fully rounded education; and Indian parents have always been particularly active in providing extra educational lessons or tools that are complementary to their children's curriculum.

With a computer at home, parents can assist their children's learning by opening a whole new world of possibilities. The range of educational software is substantial, access to the wonderful world of the Internet is growing; plus a computer can help develop and refine many other intangible skills such as communication skills, learning to type, getting organised, learning to handle large amount of information, learning the value of teamwork, developing job and problem learning skills, making friends around the world as well as broaden their knowledge on a wide range of topics.

With computers wired to the Internet, a national and international digital network that ties millions of people electronically, parents and children will be able to explore thousands of educational Web sites like libraries and museums, learn new languages, research school projects, and join a host of forums on a variety of topics. Using electronic communication technologies like Email, a child in Kerala could correspond with friends in America, Japan and virtually anywhere in the world.

A multimedia-enabled personal computer will make homework an interactive experience complete with video, audio and animation. Learning becomes fun and retention rates improve. A parent can help his child transform mundane subjects into exciting discovery tours through the Internet and educational CD-ROM titles.

Technology is evolving so quickly that the acquisition of computer literacy skills is certain to become a lifelong process. In the next millennium, information technology skills will become an important pre-requisite in every job. By investing in a personal computer, parents can ensure that their children are prepared and equipped for such a future.

In addition to helping their children with their studies, these household computers are providing an opportunity for each family member to upgrade their individual technology skills.

Intel's Role

Today's education system is geared towards teaching children the different programming languages, but as computers become more and more a tool in our daily lives, it becomes critical to move from Computer Education to Computers for Education. In addition, multimedia computer, as various studies have shown, is the ideal learning tool that supplements traditional teaching with interactivity to significantly improve the learning process.

In 1971, Intel introduced the world's first microprocessor and sparked a computer revolution that has since changed the world. Intel, the worldwide leader in computer technology, has been playing a

key role in the promotion of computer literacy in India, as part of its charter to catalyze the adoption of the latest computer technology across all segments from business to healthcare to education.

Intel's education initiative in India, titled Project Vidya is aimed at catalysing the adoption of latest computer technology by schools for the purpose of teaching.

Project Vidya

Key Objectives:

1. To create awareness about the benefits of multimedia computers and Internet as a tool for learning among children, educationists and parents.
2. To promote faster adoption and usage of multimedia computers in schools and in homes.
3. To catalyse availability of relevant educational and edutainment titles at affordable prices.

Building Awareness:

In May 1996, Intel's President, Dr. Craig Barrett, inaugurated the first Intel Cyberskool at the National Science Centre, Delhi, launching Intel's education initiative in India. The Intel Cyberskool, a state-of-the-art multimedia lab, was set up by Intel to provide children, teachers and parents with easy hands-on access to the latest technology, which is crucial to any computer literacy program. To date, the Cyberskool in Delhi has been visited by over 20,000 school children, and has been followed by another Cyberskool at the Nehru Science Centre in Mumbai. In addition Intel has launched a mass media advertising campaign promoting the benefits of the multimedia computer as the ideal tool for learning and regularly holds unique Computer Carnivals where users can come, see, use and buy the latest computers and software.

Computers in Schools:

To facilitate the adoption of multimedia computers in schools, Intel has been working with various hardware and software vendors to make available the latest computer technology to schools at special prices. Some of the hardware vendors who, under Project Vidya, have special prices for schools are multinationals like IBM & Wipro-Acer, Indian manufacturers like HCL & Unicorp and various small regional manufacturers. On the software front Intel is working with NIIT and other vendors to make software more affordable to schools.

Software Availability:

One area in particular that Intel is encouraging is the field of educational software development. In Bangalore, Intel has invested in creating a Technology Centre to facilitate the development of a indigenous software community. By sharing technology roadmaps and providing leading edge technology to the developers, Intel's objective is to help launch relevant and dynamic software that takes full advantage of its latest Pentium II processor, the latest technology in high-performance computing.

The challenge for the growing software community in India is to create visually compelling and exciting multimedia education application that captivate the young audience as much as games do. Games developers have had a much longer learning curve and Intel aims to help software developers in India leapfrog that knowledge gap.

Under education there are four distinct types of educational software: pure education that relates directly to the curriculum (Math, English, Physics, Music, etc.); general interest (the human body for example); reference works (encyclopaedias, atlases, etc.) and cultural appreciation works (of famous people and art, etc.).

With new titles of multimedia educational software and the enhanced performance made possible by Intel's Pentium II Processor, subjects such as biology, physics and geography come alive, making learning more engaging and enjoyable.

Also with the emergence of the Internet as an unlimited world of learning, questioning and sharing, Intel has created its first kids Web site to support the many questions people new to computers and new to the Web may have. Located at http://www.kids.intel.com, it includes sections specifically for parents and kids.

Summary

In an information-based economy, knowledge is power. The ability of developing economies like Indias to adapt to the changes brought upon it by information technology, depends on the policies the country adopts now. This is already happening with the government taking a closer look at opening up the Internet. With more players offering these services, one foresees a greater usage of the Internet for education, commerce and so on.

Technological and manufacturing advances are also continually driving down the cost of computers and software, bringing sophisticated technologies within the reach of more households in India By linking the activities of home and school, computers can expand and transform the learning that occurs in both places.

The ultimate benefit of using information technology in these countries is that it will foster communities of lifelong learners A national consensus of the importance of information technology is well on the way to being developed - the next step is to develop the necessary infrastructure to support it

Repositioning Management Education

Vasant V. Bang[1]

Introduction

India's first prime minister Pandit Jawaharlal Nehru, in his historic speech, delivered on the midnight of 14th August, 1947 had said, 'The service of India means the service of the millions who suffer. It means ending of poverty and ignorance and disease and inequality of opportunity. The ambition of the greatest man of our generation (Mahatma Gandhi) has been to wipe every tear from every eye." Fifty years later, although the country is celebrating the golden jubilee of its independence with great fervour, 40% of its population still lies below poverty line.

The key to economic progress is effective and efficient utilisation of resources and the very purpose of management education is to promote a culture of effective and efficient functioning. To quote, Henry Mintzberg, (1986). 'No job is more important to our society than that of a manager. It is the manager who determines whether our social institutions serve us well or whether they squander our talents and resources". Loksatta (August 25, 1996), a Marathi daily from Pune while reviewing Hamish McCare's book, 'The World in 2020', quoted the author as follows : 'One of the great issues of the first quarter of next century will be whether countries can learn from each other not just how to make their industries efficient but how to make their whole societies more efficient".

In terms of the number of management institutes, India is probably next only to USA and every management institute worth it's salt, swears by social responsibility. But in reality most of the institutes are worried more about securing placements for their graduates in organisations that offer fat pay packets than anything else.

There is an urgent need to change the present image of management education as being a passport to white collar jobs in multinationals and big business organisations. Management education needs to be repositioned as a means of bringing about overall progress and prosperity in the country.

This paper purports to propose a four - tier model of management education (Figure 2) on the basis of observations made largely through literature review. It is hoped that such a model may be useful in formulating strategies for repositioning management education in India. The paper begins with certain observations on problems related to management education.

Observations

1. Paradox of rising demand amidst growing criticism

In the last few years, management education has drawn severe criticism not only in India but also in USA, which is the pioneer in this field. The following lines from the 1990-92 Official Guide to MBA programmes, published by Graduate Management Admission Council (USA) are revealing. 'MBA degree has been viewed widely not only as an instant route to career success but also as the cause of American economic decline in 1980s".

In a recent interview stet to the Times of India, the famous management guru Henry Mintzberg was quoted as having told Harvard Business Review, in 1993 that the more the Harvard succeeds in creating MBAs, the more the American business will fail.

Gonhalekar & Shankar (1993) write, 'In all fairness it is not only MBAs who engage in these (Temptation to use smart presentation skills as substitute to action & application, advising what others should do and quick witty criticism) unproductive things. Non MBAs do it too. But it hurts when MBAs do it, because they are supposed to have been trained in being productive".

[1] Dr. D.Y. Patil Institute of Management and Research, Pune.

The paradox is that in-spite of all the criticism, management graduates are in great demand. This is evident from the sky-rocketting salaries offered to fresh management graduates. 'Advertising and Marketing' (September, 1994) estimated the average salary offered in campus jobs to graduates of premier management institutes (like IIMs) as a whopping Rs. 1 4 lakh per annum

Probably, the criticism such as above is directed at the processes of education followed at the management institutes and the practice of inducting fresh management graduates at the senior levels, and not at the very existence of management as a discipline of study. To quote William Byrt, (1989 15) "Since the quality of management education has a vital bearing on our economic, social, and personal lives, it can not be allowed to depend on change; on managers learning to learn entirely through practice, picking up skills as they go along".

2. Ill effects of inducting fresh management graduates at senior levels

Jean-Louis Barsoux, (1989 : 120) writes "The management education system in France is elitist. It is hypersensitive and promotes a minority giving them employment passport through to retirement In fact, there is growing concern voiced about the psychological effects on French society of such a system. It leaves a disillusioned and frustrated majority with the demotivating prospect of limited advancement since the upward limits on promotion are basically determined by the diploma held at the start of a career".

Similar concerns are being voiced in India. To quote B.R. Dey and Bikash Bhadury, (1995) "On completion of their studies, the management students are appointed to fairly senior positions in organisations. Even when they are taken as management trainees, such positions are offered at the end of the training period. These appointments, at times, create dissatisfaction and frustration amongst some of the subordinates, particularly those at the immediately lower level. They look upon such appointments as threats to their career growth. They may feel that organisation has chosen to ignore their years of work experience".

Although in Japan the higher degree holders (not necessarily management degrees) from universities are also offered the managerial cadre, a fresh graduate is expected to start his career at the lowest level. Moreover there are a few notable cultural differences between Japan and other countries.

Ronald Gore, (1986) writes, "In Japan, the difference between a manager and subordinates is perceived as being not a difference between a privileged action of the middle class set in authority over workers born and bred in working class, but a difference between those who were sufficiently good at school and those who weren't. The spread of wage - salary differentials is narrower within the typical Japanese firm than in the typical American firm. In almost any firm a skilled worker with twenty five years seniority will be getting more than any twenty five year old graduate manager".

Appointments of fresh management graduates to senior positions has other pitfalls also. Such management graduates not only find it difficult to seek the cooperation of other organisational members, who could not enjoy such privileges, but also find it difficult to perform on their own due to lack of prior work experience.

During their research, Pulin Garg and Indira Parikh (1990 : 52) found many past students of Indian Institute of Management, at Ahmedabad blaming their institute for training them for a role which they could assume only after five to ten years of work in the organisation. They write, "Knowledge is poor substitute to contextual experience. The MBAs should not expect too much in terms of being able to introduce changes. First they have to prove their value to the organisations which they had entered".

In the famous book The Strategy Process, (1986 : 449) Prof. Lewis B. Ward's (1970) research on the salaries of business school has been quoted. He has found that median salaries of graduates of that institution's MBA program plateau approximately 15 years after they enter the business, and on the average, do not increase significanly thereafter. Men who attend Harvard's Advanced Management Program (AMP) after having had approximately 15 years of business experience, but who for the most part have had no formal management education, earn almost a third more, on an average, than men who hold MBA degrees from Harvard and other leading business schools.

3. Need for continuing education

Ken Hall (1986 : 190) writes 'Managers do require some form of training/education, when the length of time that has elapsed since the attainment of their original qualifications is considered." Peter Forrester, (1986) corroborates, "The development of managers is not a matter of identifying a potential managerial elite at an early age and putting it through a standard educational procedure. Instead it requires a flexible system for identifying and supplying the educational needs of a wide variety of people at different stages in their career".

4. Issues of proliferation

Setting up of a large number of management institutes in the country in the last few years has raised a lot of hue and cry. Critics fear that such an act will result in lowering of the value of MBAs.

The real issue here is : how the value of MBAs is determined ? Is the value dependent on the pay packages and the reputation of the employing organisations? No, the value of management education (for that matter any discipline of education) can not be determined from it's benefits to a few privileged individuals (MBAs) and organisations (employers as well as management institutes). Since the aim of management education is to promote effective and efficient utilisation of resources, it's value will certainly go up by free and not restricted flow of management knowledge. It must be understood that although every one need not become an engineer, doctor, scientist, or a lawyer, every individual needs to become a good manager.

5. Need for sectoral expansion

Phenomenal increase in the number of management institutes in the country can be justified, if and only if management education reaches all sectors of the Indian economy. Of late, some focussed management programmes like rural management, agricultural management, cooperative management, hotel management, travel and tourism management, hospital management, construction management, etc. have come up. But such programmes are much lower in number as compared to the general management programmes. Almost every institute offering general management programmes attempts to place it's graduates in large or multinational organisations. As a result management education has remained confined to only a few chosen sectors.

Ironically, the management institutes which are greatest exponents of concepts like SWOT analysis, market segmentation and target marketing, hardly use such concepts themselves. There is a tendency to blindly follow the selection procedures and course curriculum of premier institutes especially the IIMs.

6. Confusing diversity

In the absence of uniform management education policy in the country, a wide diversity (albeit similar in aim and content) of programmes exist, viz. full time and part time; residential and non residential; AICTE recognised but non affiliated to university, and AICTE recognised as well as affiliated; and bearing different titles such as MBA, MMS, MPBA, MBE, MMM, PGDBM, PGDM, PGDBA, etc. This has resulted in confusion among students as well as employers.

7. Importance of part time programmes

Peter Forrester (1986 : 195) writes, 'For most fields of management the only laboratory is real life. The aspiring manager cannot apply a stress (such as change in the market) to an organisation and see what happens. This places much greater emphasis on the need to blend theory with practice throughout the (management) development process".

Moreover, in a socio - economic environment like the one that prevails in India, it is very difficult for people to leave their jobs for pursuing full time higher education.

This makes it amply clear that part time programmes can prove more effective. But paradoxically, very few employers recognise part time programmes as at par with full time ones.

8. Management education from childhood

To quote Kevin Collins (1989), "Japan has demostrated over a period of centuries that it looks to education to meet it's short and long-term needs. The deliberate introduction of Confucian education by Tokugawa Leyasu in the 1600s as a means of pacifying warring samurai and the manner in which the Japanese government, between 1890 and 1945, manipulated and indoctrinated the population through the discriminate changes in moral lessons to prepare for industrial growth or war as the situation changed, ably demonstrates this approach. So great emphasis is placed on group oriented behaviour by Japanese employers/managers, so that governmental guidelines have been laid down for elementary school teachers to ensure that a large proportion of future employees are shaped in this way."

East Asian countries like Japan, South Korea and Indonesia realised long ago that the key to economic progress lies in the education and enlightenment of ordinary citizens and not just a few individuals. These countries have successfully inculcated a culture in their societies that promotes optimum utilisation of resources. This indeed can be termed as **management culture**. But due to the pathetic state of primary education system in India, a vast majority of the Indian populace is deprived of such lessons.

Even those fortunate few who take up formal management programmes must be finding it difficult to learn and practice lessons in optimality, after having spent the first 20 or more years of their lives amidst a society which has total disregard for efficiency. M.N. Chatterjee (1994) writes, 'Managerial development or economic growth, after all, is not an isolated elitist exercise but basically a creative dimension of the cultural ethos of people."

Proposed Model of Management Education

For imparting formal management education, the following four levels are identified; it is assumed that in addition to the suggested four levels, short courses, seminars, workshops, in company programmes and research programmes leading to the doctoral degree will continue to exist

(a) Compulsory Management Education (CME)

Right from the school/junior college level so that skills, attitude and value development begins at the right age. The objective at this level is to impart management education necessary for self management so that society as a whole learns to make optimum utilisation of resources in all walks of life.

In the absence of an effective primary and secondary education system in India, management institutes should take up this responsibility. Management institutes should develop and implement plans to impart compulsory management education at the school level. The institutes can train the school teachers and parents, who in turn, can pass it on to the students

Some of the concepts/topics which can be introduced are : Optimality (maximising gains and minimising losses), Strategic Thinking (ability to visualise long term scenario and willingness to sacrifice such short term gains, that may affect chances of long term survival and growth), Customer Orientation, Pursuit of Quality, Time Management, Stress Management, Personal Financial Management, Career Selection and Planning, Civic Sense and Social Responsibility, etc.

(b). Diploma in Management (DIM)

The objective at this stage is to impart education necessary for the management of self in the organisational set-up.

In addition to imparting the broad understanding of organisational functioning, the students should be prepared for entry level jobs in the organisations. e.g. students interested in production function may be prepared to take up jobs in sub-areas such as manufacturing/maintenance/safety/sores management, etc. The emphasis at this level should essentially be on operational aspects rather than planning function.
Programme duration for a full-time course showed be 9-12 months.

(c) Advanced Diploma in Management (ADIM)

The objective at this stage is to prepare students for middle level management. Emphasis should be on development of managerial skills necessary to head a sub-area/section/function. The students must be imparted detailed knowledge of a chosen functional area. At this level two types of specialisations may be offered, viz:

(i) Sector-wise specialisation :

General Business Management of Specialised Business Management such as Hotel/ Travel and Tourism/Hospital/Pharmaceutical/Construction/Rural/Agricultural/ Cooperative/Retail Trade Management, etc.

or Management for Non Business Sector

(ii) Functional area specialisation such as Production/Marketing/Finance/ Personnel, etc.

Programme duration for a full-time course should be 18-24 months.

(d) Master of Management Studies (MMS)

The objective at this stage is to prepare students for top management positions. At the end of the programme students should be able to head a branch/department/ division/organisation.
Contents of the programme should not be predecided. Details should be worked out after taking into consideration background of the participants, developments in the macro environment (socio - economic, politico - legal, etc.) and requirements of the employer organisations.
Programme duration for largely part time with some portion being taken as full time course should be 9-12 months.

Notes :

1. Programme Durations :
   It is recommended that the idea of part time programmes be popularised among the students and employers. To bring in the academic rigour, a part of the programme may be offered on full time basis. However, the suggested durations for DIM and ADIM are based on the assumption of offering these programmes on full time basis. Hence, the programme durations may be changed as per the mode of offering.
2. Eligibility Conditions :
   Eligibility conditions for the three levels are as shown in Fig. 1. Numbers in the figures represent years of experience required after completion of immediate past degree/diploma or 18 years of age in case of non-graduates seeking admission to DIM. However, the specified eligibility conditions are only tentative and can be finalised only after further research.

3. Selection Procedure :

Existing procedures for selection (or rejection) of candidates for any particular programme should be preceded by the procedure for identification of aptitude and interest of every applicant so that that appropriate type of management programme can be recommended to him/her.

4. Type of Institutes :

Instead of every institute targetting similar type of organisations for placements of their students, the institutes should identify their target markets on the basis of resources available with them. If the idea of specialisation among the institutes is scrupulously implemented through a national level management education policy, all sectors of the Indian economy will benefit Placement problems faced by lesser known institutes can also be effectively tackled in this way, e g. an institute in the moffusil area, if it specialises in rural management, may find favour of even multinational companies for the recruitment of personnel for rural marketing

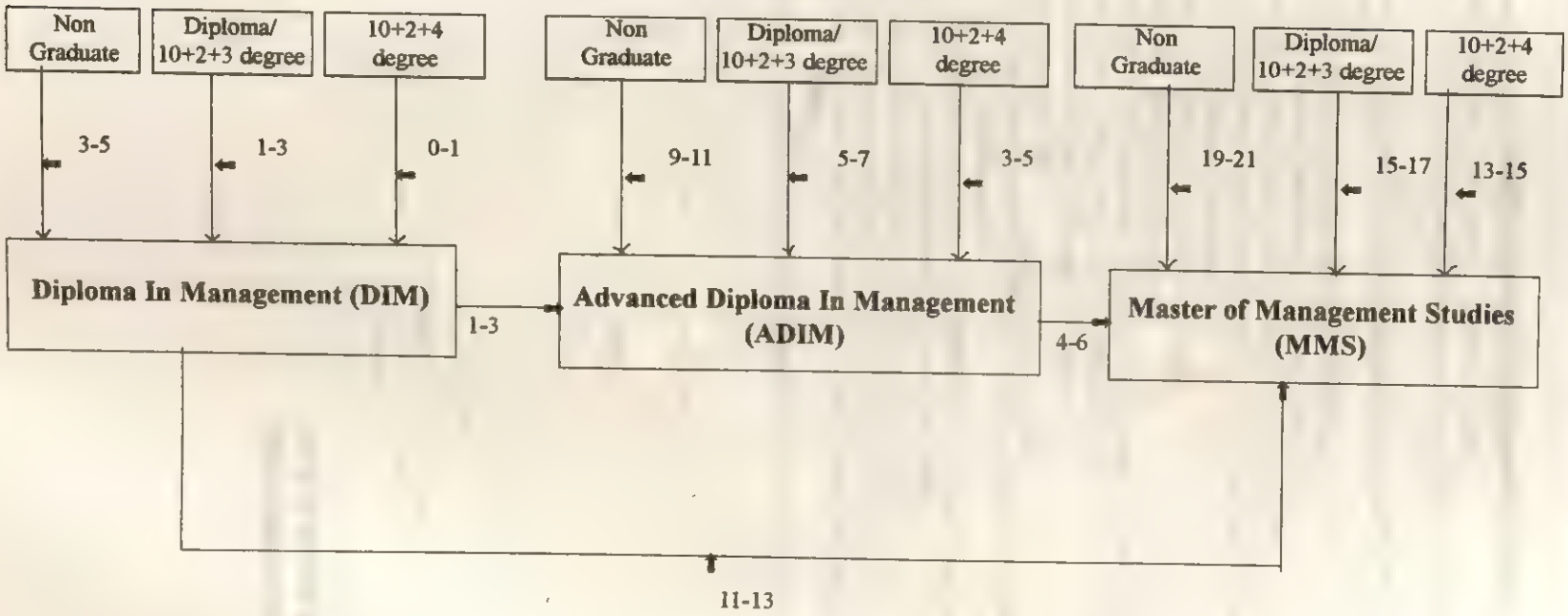
Conclusion

To bring about overall progress and prosperity, the management culture needs to be inculcated in the Indian society at large This calls for the development of a management education policy at the national level.

Recognising that knowledge and skills requirements vary from one organisational level to other, a multiphased model of management education is suggested It is proposed that the employer organisations be encouraged to induct management graduates at the appropriate organisational levels depending upon the type of management programmes attended (among other considerations).

The proposed model strongly recommends free and not the restricted flow of management education. Repositioning management education as education for masses and not for classes, may deprive management programmes of their glamour and glitter, but will this not be in the best interest of the nation?

Fig. 1 : Eligibility Condition



Management Education : Promise & Performance

Padmakar M. Sapre[1]

The Emergence of Management

Management seems to have become the most pervasive phenomenon of our times. A variety of organisations - industry, banks and financial institutions, hospitals and health care institutions, public sector undertakings, social welfare agencies - are trying to acquire and apply this body of knowledge and skills in an effort to improve their performance. There seems to be a growing belief that many of the organisations in our society are performing at less than an optimum level and that modern management concepts and techniques have a great deal of promise for improving organisational effectiveness.

Several indicators of the growing interest in management can be cited. First, the number of institutions that offer management courses has increased enormously. Thirty years ago, there were only two or three institutions that offered the MBA programme These were prestigious institutions designed to attract the brightest students and train them for high level managerial positions in the private as well as public sectors Today, there is hardly a university or college that does not offer a management course This growth is indicative of the demand for management education. With the possible exception of computer science, management is the fastest growing area in higher education. Second, most major organisations have instituted some form of training programme for their employees. Generally referred to as staff development, most of these programmes focus on management concepts and techniques that contribute to improving individual as well as institutional performance. Particularly striking is the acceptance, even on the part of government organisations that their "administrators" need to be oriented to management. This is evidenced by the establishment of management and training institutes by central and state governments alike. Finally, management is gaining recognition as a profession : a number of individuals and firms have surfaced as consultants who offer their services to a variety of organisations.

It seems reasonable to ask : Why this 'love affair' with management? Why is there such widespread interest in learning about it ? Four major factors seem to account for this trend :

(a) Organisations have become large and complex. They have grown not only in size but also in terms of the objectives they pursue. Their functions have diversified resulting in multiple roles for their managers.

(b) It is being recognised that human resources are more important than physical and financial resources It is the people who spell the difference between successful and unsuccessful, productive and unproductive organisations. While physical and financial resources are necessary, they can become productive only in conjunction with people. This explains the current emphasis on human resource development.

(c) Today's workforce, in general, is more aware, more self conscious, more aspiring. It has a much wider exposure to outside environment and influences. The traditional approach of "command and control" used to manage people in organisations is no longer considered valid. A whole new philosophy is needed to motivate people to higher levels of performance.

(d) The discovery of new knowledge and techniques in the field of organisational behaviour and management makes it necessary to educate and train people to apply it effectively.

Administration vs Management

One may justifiably ask at this point what is new about management. Does it differ from administration in any significant way? Or, is it the same old wine in a new bottle? A comparison of the

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modern management approach with the traditional, bureaucratic approach to administration, reveals the following major differences :

(a) Administration is generally input oriented; management is output oriented. Administrators often consider increase in inputs as an indication of progress. Management being output oriented, is concerned with results. Inputs and processes can be assessed only in terms of outputs. Every organisation exists to achieve certain goals, and goals always exist outside the organisation. The result of any business is a satisfied customer; the result of a hospital is a healed patient; the result of a school is a student who has learned something of value that he can put to work ten years later. Inside the organisation, there are only costs.

(b) Administration is accountable for control and maintenance; management is accountable for growth. An efficient administrator is one in whose jurisdiction misuse and waste of resources is minimum. Auditors look at the way resources were accounted for, not what results they produced. On the other hand, managerial performance is measured in terms of results achieved. Effectiveness, not mere efficiency, becomes the criterion of accountability.

(c) In the administrative model, relationships are determined by authority and jurisdiction. Interpersonal relationships tend to be cold and distant. People are conscious of levels of authority and corresponding jurisdiction, this discourages open and candid exchange of views. It is considered safe not to voice dissent. "Just do what you are told and make no waves" becomes the operational guideline. By contrast, in a managerial-professional model, relationships are based on expertise and autonomy. This leads to uninhibited dialogue and communications, a sense of worth, and greater job satisfaction.

(d) Administration tends to be rigid; management tends to be flexible. Perhaps the most visible feature of a bureaucratic organisation is the perceived "sanctity" of rules and procedures. This in itself is not a problem except when rules are regarded as ends rather than as means to achieving organisational goals. Not infrequently, the interpretation of rules is informed by distrust and the desire to assert authority and self importance. The adherence to rules (often to the letter than to the spirit) discourages administrators from being innovative, from trying to break new ground, from taking risk. On the other hand, commitment to growth makes it imperative for management to be flexible, open and forward looking. Rules and procedures are viewed as means, not ends. A more insightful explanation of this difference is that administration views individual goals and organisational goals as inherently conflicting; their role is to ensure sub ordination of the former in the interests of the latter. The management approach is to recognise the two as complementary, rather than as competitive, to develop individuals in a way that synchronises and promotes both, and to seek achievement of organisational goals through a more conducive environment.

(e) The reward system is yet another element that distinguishes the two models. Seniority which is a measure of input, is the major criterion for promotion and other form of recognition in the administrative culture. In the management culture, performance, which is a measure of output, determines upward mobility within the organisation. This difference has important implications for the way performance is assessed. Given the importance management attaches to the development and empowerment of people, the formative aspect of assessment is considered crucial. The outcome of assessment is used to identify areas of needed improvement and the necessary follow--up and support required to achieve it. This is in sharp contrast to the age old system of confidential reports which violates the three basic requirements of sound and constructive performance appraisal : that it be open, data based, and participatory. It helps neither the individual nor the organisation; in fact, it only fosters distrust and suspicion.

(f) Administration, typically, is reactive. It tends to look at each situation or problem in isolation and attempts to deal with it in terms of a piecemeal, one-shot, solution. Many decisions reflect a short-term, sometimes even fragmented, view of a complex situation arising from its urgency and the need for immediate action. Management tends to be proactive. In a management culture, the systems approach has become a way of thinking for dealing with problematic situations. An organisation is viewed as a unified, integrated entity composed of interrelated components that are constantly interacting with one another. Any intervention in one component has its

repercussions on the others. The three components of an organisational system are inputs (resources), process (activities), and output (results). When these three are constantly monitored in unison, thinking and decision making tends to become proactive. Long-term policies and solutions designed to enhance organisational effectiveness keep evolving over time

These differences are not a matter of textbook definition of administration and management In fact, management literature provides little help in this matter. Nor do those who provide leadership in management education seem to be sensitive to these differences between what is taught and what obtains in most of our organisations That many consider the two terms synonymous is indicated by the fact that the most well known and reputed academic qualification in Management, the MBA continues to highlight administration. In establishing the above comparison of the two models, I went to the source of the two terms. This, I thought, would be helpful since language is a reflection of culture "Words have no meaning; people give meaning to words" is a popular expression among communication experts Administration, which is a much older term, is associated with the state, it, therefore, captures the values, assumptions, and beliefs that obtain, and are best exemplified, in government organisations Management, which is a more recent term, is associated with business and industry, it conveys the culture of business and enterprise. This analysis was subsequently validated by systematic observation in a number of organisations in both categories It must be added, however, that the administrative culture was found to be far more pronounced in India while the management culture was found to be more pronounced in the Western countries. This, again, is not surprising given the fact that modern management thought and practice have been developed and applied essentially in the West

Sources of Management Concepts and Techniques

The three major sources of management concepts and techniques are behavioural sciences, quantitative sciences and computer technology. Psychology, sociology, and organisational behaviour have provided many of the concepts and theories around which the practice of management has developed. Among the more frequently used concepts are motivation, communication, interpersonal relationships, authority and responsibility, leadership, and group dynamics Maslow's hierarchy of human needs, McGregor's Theory X and Theory Y, and Herzberg's theory of job satisfaction and dissatisfaction are among the contributions of behavioural scientists to management thought and practice The notion that organisations have their own identity, apart from that of its members, has led to the study of organisational behaviour and the development of organisational theory The concept of organisational culture has also emerged from these notions. The reliance of modern management on rational, objective, and quantitative methods has given it the flavour of a science. Mathematical models of analysis are widely used and a number of techniques involve quantification and measurement

Information explosion has become a major challenge for management. Since accurate, reliable, and timely information is the basis for sound managerial decisions, managers need a systematic way of collecting, sorting out, and storing meaningful information. The emergence of computer technology has made all this feasible. Management Information Systems (MIS) has grown into a highly sophisticated field of study.

Realising the Promise of Management Education

Although management has emerged as one of the most pervasive phenomenon of our times, there is little indication that it has made any significant difference in the way our organisations function. The administrative bureaucratic model continues to dominate the thinking of those who govern our institutions. In spite of the growth in the number of management training programmes, little, if any, of what is learned is implemented. The main reason for this gap is that while education and training programmes do a reasonably good job of teaching management concepts and techniques, they fall short of showing specifically how the change from the old to the new approach should be brought about The new knowledge is learned in isolation of the existing reality Not infrequently, the conclusion is drawn that 'It won't work" in Indian conditions.

Several management training programmes suffer from a lack of both credibility and a sense of purpose about the outcomes of training. I have participated in programmes that were designed for educational administrators. Some of the resource persons were drawn from the educational establishment, and others from the field of management. The former were very effective in explaining the existing procedures, operational guidelines, and norms of performance by which administrators were judged. Their perspective of management training was to enable participants to do better whatever they have been doing over the years. "Do things right, rather than do the right things" best caputres this approach. There was little evidence, if any, that the resource persons were aware of the new knowledge in management which would enable them to question the assumptions underlying traditional administration and argue for a fundamental change. The latter presented the concepts and techniques of modern management. While participants learned these fairly well, they could not conceptualise how the new knowledge was to be used. In the absence of any effort to synthesise the old and new, training programmes fail to make the necessary inpact that would bring about the desirable change in organisations.

What is needed is a new mind-set, a major shift in thinking about organisations - about what they are supposed to accomplish, about ends and means, and about people in organisations. This will require a great deal of unlearning of the old ways that, as everyone has realised, do not work. It will also require adaptation; most management concepts have been developed in the West, and in the context of business and industry. They cannot be transplanted in the institutions; this is especially true of culture-specific concepts in the area of human resource management. But with appropriate modifications, they do promise to make a visible difference in organisational efficiency and effectiveness. This calls for bold and imaginative leadership in initiating and managing change.

Role of Computers in Higher Education

Lajwanti, D.K. Chaturvedi, Nandita Satsangee, S.P. Satsangee[5]

Introduction

Human-Computer Interaction (HCI) comes of age. The use of computers are growing exponentially in almost all walk of life. When the computer was invented nobody knew that this bulky number--crunching machine would change our lifestyle and help us in various sectors. Todays computers have a variety of applications ranging from simple word processing to complicated systems designing and development, research, and control of various complex processes and plans, entertainment, etc. The computer is also an important tool for distance teaching. The role of computers in education is as under :

1 To promote and provide facilities for exchange of information efficiently and accurately from one place/person to another without any loss.
2 To encourage empirical research (using valid and reliable methodologies)
3 To promote the use of knowledge and methods from the human sciences in both design and evaluation of computer systems.
4 To promote better understanding of the relation between formal design methods and system suitability and acceptability.
5. To develop guidelines, models and methods by which designers may be able to provide better human oriented computer systems.
6. To cooperate with other groups, promote user orientation and humanisation in system design
7. To teach the courses like automatic control systems theory, automatic manufacturing processes, computer aided designing, etc.

Again the power of computer can be increased tremendously by incorporating the soft computing methods in it. The soft computing techniques like expert systems, neural networks, and fuzzy systems can be used for making the computers as a soft thinking machine. This soft thinking machine can act intelligently in certain small working domain This type of machine can really improve our teaching, because intelligent computers can teach and frame the questions depending on the comprehension level of students. The levels of all the students can not be the same.

Simple computer aided teaching is nothing but the computer instructions arranged in a proper sequence to explain certain things In conventional Computer Aided Instruction (CAI) applications, "canned" sequences of instructional material are presented, interaction with the program helps the students to learn. Unlike traditional CAI, Artificial Intelligence based Computer Aided Instructions (AICAI) can adjust its tutorials to student's knowledge, experience, strengths and weaknesses As a result Intelligent CAI is far more effective than conventional CAI. In addition, students can learn from expert systems. The knowledge in an expert system can be tapped by assuming problems and finding solutions.

There are a number of advantages of AICAI in teaching :

1. Teaching can be made interactive
2. Computer based Education can offer choice of colours, graphics, zooming, etc., so as to improve the teaching effectiveness
3. Teaching can be made motivating
4. Tutorials can be given according to the student's capabilities
5. Computers can be made intelligent using fuzzy logic, artificial neural networks, and expert systems
6. Computer's knowledge can be modified and/or updated
7. The multi-media facility in computers increases the teaching powers tremendously

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8. Logical explanations can be given by computers if it is intelligent

In the professional education where automatic manufacturing and adaptive controlling is difficult to teach, computers can make it easy by developing educational software modules.

Development of Teaching Module

For developing the intelligent computer aided teaching modules, it is necessary to keep in mind the following points :

1. What do we want to teach?
2. How do we want to teach?
3. Whom we want to teach?
4. What are the facilities available to the students?
5. What are the expertise available for the development of AICAI?

Question 1 tells us the type of course that we want to teach i.e. pure theoretical, pure mathematical or mixed type, practical oriented or non-practical oriented course. For all these courses the approach of teaching will be different. Besides the nature of the course, form of delivery is also important (i.e. face to face teaching - need a tutor - and distant teaching (text driven).

Question 2 is more crucial and important for all types of teaching. It is necessary to follow certain rules for making the teaching more effective and reducing the mental load while learning :

- Scene setting
- Input-output and dialogue
- Communication style (preferably local language)
- Depending on the knowledge and action, trying to develop mental model of the learner so that the AICAI can ask questions of that standard to learner
- Design of teaching material (user centred approach)
- Analysing mental model of learner and framing the questions according to that
- Evaluation and redesigning (automatically)

Question 3 is more relevant to the target population for knowing the level of that population so that the teaching aid can be prepared according to that and sufficient knowledge can be captured in the knowledge base. Target population may be from industries, from universities or may be fresh students.

The essential facilities required for learning are :

- Laboratory facilities
- Library facilities
- Sound graphics facilities on the host machine
- Audio system that can be connected to the computers

The module development methodology can be pictorially represented as shown in Figure 1 (page 940)

Application of Soft Computing Techniques in the Dvelopment of Teaching Aids

Now the soft computing techniques make the computers smarter and more intelligent. These approaches attempt to model the thinking and processing procedures of human brain and utilise the number crunching capabilities of computers. They also use non-algorithimic methodologies to reduce influence approximations of mathematical modelling to a minimum. With the help of these fuzzy systems computer can work not only in the binary situations like true and false or black and white but also in uncertain/fuzzy situations.

Brief Introduction of Neural Networks

Neural Networks attempt to stimulate the thinking and processing procedures of human brain by modelling neurons. The basic component of biological neuron is known as a soma and is attached to the axon. The axon is electrically active and produces the pulse emitted by the neuron. Electrical passive dendrites receive input from neurons by means of specialised contacts called synapses which act as weights to the input information. The neuron is fired only when the weighted sum of inputs is above a certain threshold.

Artificial neurons have two blocks, first the summation block and secondly this weighted sum output is passed through some non-linear filter to get the final output. The information processing in neural networks is non-algorithmic, so influence approximations of mathematical modelling are reduced to a minimum Further they are capable of handling uncertainties so that results obtained through trained neural networks, even with partial inputs, may be very close to results with complete knowledge. The simple two-layer artificial neural network is shown in Figure 2 (page 241).

Brief Introduction of Fuzzy Systems

Communication with computers normally requires (sometimes rather exasperatingly) precise syntax. On the other hand, it is known that humans can communicate with each other without the same degree of precision For example, we may say that someone is "tall, slim, and middle-aged" but these terms are usually not interpreted in the same way by different individuals In spite of this fact we are still able to communicate with each other using this not so imprecise expression. Similarly, when a computer is used to model a system, it is necessary to describe the system. In practice, however this is seldom possible, since the full description of the system is usually not available. Therefore, it would be desirable to communicate with computers in the same way as we do with human beings. This would be possible if our software or hardware could accomodate fuzziness, a concept that implies that not everything belongs to one of two possible categories (e.g. 0 or 1, black or white, true or false, yes or no, etc.) The traditional set theory models the word as black or white and makes no provision for sets of grey. This two-valued logic has proved very effective and successful in solving well defined problems which are characterised by a precise description of the system being dealt with in quantitative form. However, a class of problems exists that does not lend itself readily to this approach. These problems are typically complex or ill-structured in nature, and are often left to human beings to deal with rather than being automated. The concepts are no longer clear cut like true or false, but are relatively vague, for example more or less true but most likely false In the 1920s, a mathematician Lukasiewicz challenged this premise and proposed that a gradation may exist between these two extremes About ten years later, a physicist Black introduced the concept of vagueness, that a set may contain elements that are partly in and partly out of the set. In 1965, Lotfi Zadeh of the University of California at Berkley, came up with a formal methodology for handling sets of the type proposed by Black and called these fuzzy sets. He introduced the theory of fuzzy sets as an extension to traditional set theory and developed the corresponding fuzzy logic to manipulate the fuzzy sets A fuzzy set allows for the degree of membership of an item in a set to be any real number between zero and one This allows human observations, expressions and expertise to be more closely modelled. Since its introduction fuzzy set theory has attracted the attention of many researchers in mathematical and engineering fields as well as in computer science and has become well established. Currently a large number of successful applications of fuzzy logic to many real world control problems have been reported. In fact these applications have surpassed the expectations of the pioneers in this area. It was originally thought that most of the applications of fuzzy logic would be in those knowledge based systems in which the resident information is both imprecise and uncertain. Contrary to this expectation, most of the present applications of fuzzy logic have taken place in systems that have imprecision but not uncertainity. The following steps are involved in fuzzy systems for development of teaching modules:

- Drawing fuzzy membership functions and defining their overlapping;
- Fuzzifying the given input of fact;
- Inferencing; and

- Defuzzification for getting output.

The fuzzy systems and neural networks can be used in isolation or in combination for the development of Artificial Intelligent Computer Aided Instructions (AICAI). On line learning facility can be embodied in AICAI, using fuzzy neural networks.

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Fig. 1 Development of Module for Computer Aided Teaching (CAT)

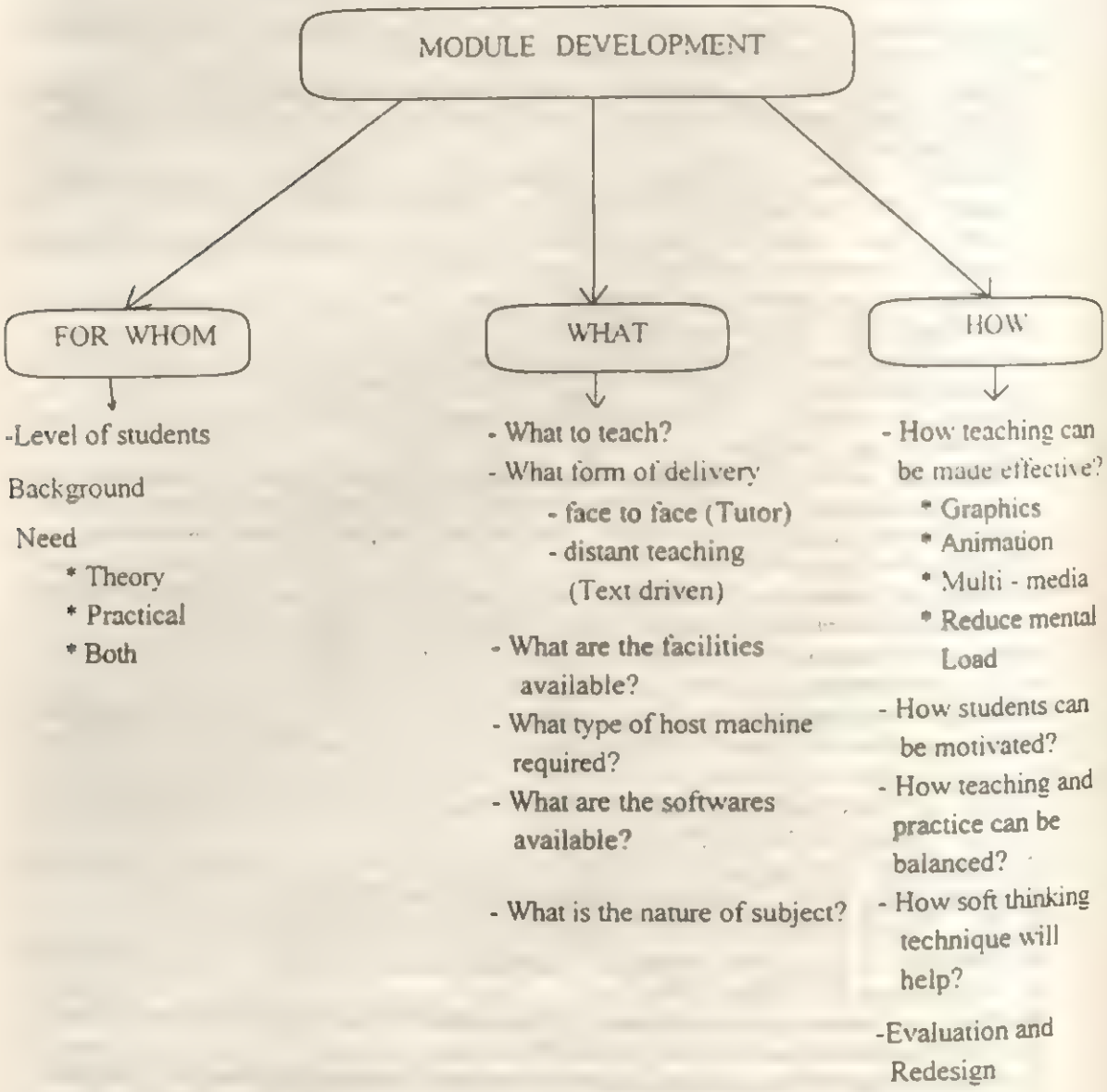
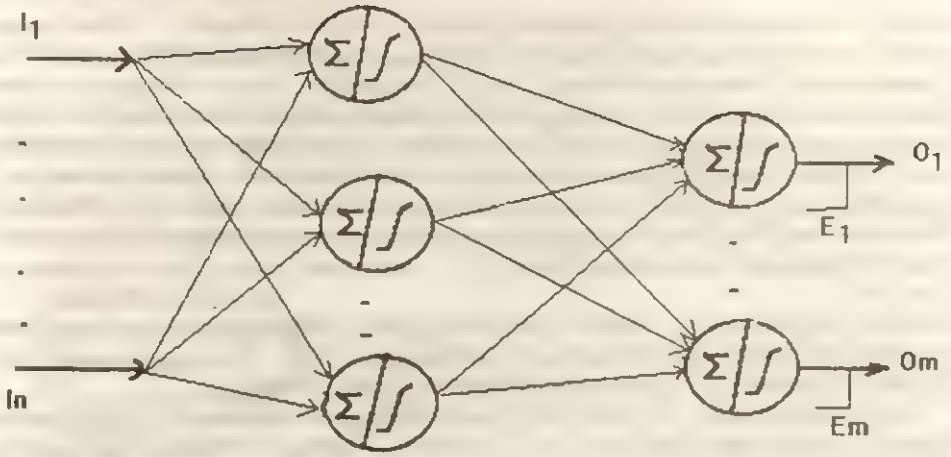


Fig. 2



Σ Artificial Neural Networks

Management Education in India
History, Prospects and Emerging Issues

V.H. Pithadia[1]

Introduction

(a) Global · The science of Management was immature in the 19th century. It has matured as a professional and institutionalized branch of knowledge in the 20th century. Management is a process of social science. Management Education in USA, due to the rise and concentration of manufacturing activity in the 20th century and the growth of industrialization, business activity and individualist ideology, got an impetus it. In 1881, America's first school of finance and commerce had been started by the University of Pennsylvania with a small amount of donation of one lakh dollars proposed by Mr. J. Wharton. After that, University of Chicago, California (1898) and Harvard Business school (1908) have developed business and management school in USA. Institutionalized branch of Business Schools started first in USA; subsequently France, Britain and other countries followed.

(b) National In India the first school to offer management education namely the Indian Institute of Social Welfare and Business Management was established in 1954. This was followed by the Dept. of Commerce, Universities of Andhra Pradesh, Bombay, Delhi and Madras.

Sir Zhahagir Gandhy of Tisco "The father of Management Education in India" formulated the first board of Management Studies in 1955. The task is defined as 'Evolving courses of study in Management Advising the all India Technical Council on the selection of Suitable Institutions to offer courses in Management, laying down standards, conducting Exams leading to the Award of National diplomas and certificates in management and generally promoting the coordinated development of management education in the country." The fifties had been marked by direction and content with regard to the management programs in India.

The establishment of Indian Institute of Management (IIM) - Calcutta (1961) and IIM - Ahmedabad (1962) was partly on the basis of Prof. Herbert Simon's (an eminent American Scholar Commissioned by the Ford Foundation to examine the possibility of promoting US type business schools in India) recommendation in the early sixties and achieved landmark position in business education in India. These IIMs which are a set-up by the Government in partnership with Industry and Ford Foundation were followed by. XLRI (1966) and MIT's Solan School and HBS Education System.

In the 1970s, there were more than 50 management schools with the founding of IIM, a variety of Bangalore in 1973, but 1980s have shown an explosive growth in number. There were degrees, diplomas :Since then 50 more schools have come into being and a number of private colleges affiliated to University began to offer the MBA courses. IIM. Lucknow was set-up in 1984 and has been patterned on the traditional model.

While AICTE (All India Council of Technical Education) laid down the norms of Recognition of Management Schools in 1986, the AIMs (Association of Indian Management Schools) was formed in 1988 to bring uniformity among management schools in India. It has recommended to the AICTE and the Ministry of Human Resource Development a new set up of norms and standards for the recognition of management schools in 1989. AIMS cover more than 200 institutions.

The current decade has been marked by growth in the number of management institutions most of which have come up in the private sector. A record number of 222 new management Institutions/Programs were approved by AICTE in 1994 - most of which have become functional from 1995. Next to USA, India has the largest number of management education institutions compared to any other country.

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Management Institutions

The mushrooming of management schools provides more opportunities for the students but at the same time it raises doubts among them. How does the student evaluate a management institute and its programs? This question is particularly relevant as management education in India is of a dubious quality. Therefore, an effort has to be made to provide some sort of a rating mechanism for the management schools based criteria like infrastructure, faculty teaching method, job placement for summer training, research undertaken, etc.

Emphasis on Technology Management

Technological changes are very rapid and there is no way that we can resist them. With knowledge gaps of technology, post graduates of Management branch and MBAs cannot compete in employment markets. Therefore, the management institutions should develop subjects like technology management in which transfer, selection, negotiations, innovation, research should be among the key elements of the curriculum. The new areas of technology are :

- Information Technology
- Non-conventional Energy
- Hydro Carbons
- Telecommunications
- Electronics
- Power
- Chemical Engineering & Pharmaceuticals
- Consumer Durables
- Infrastructure
- Transportation
- Multinational Factor
- Leisure and Travel

Demands of Corporate World

Increasing competition and quick changes in business environment have brought in more work pressure in today's business world. Stress has become unavoidable and one has to learn to cope with it, otherwise it could result in emotional instability, physical disorders, depression, etc. In a study of 6427 executives conducted by ESCORTS HEART INSTITUTE & RESEARCH CENTRE, 30% tested positive for stress. It is in that context that areas like stress management and time management, office psychology have become highly relevant in today's corporate world. Also risk taking, result orientation, team spirit, ethics in business, adaptability, etc., are some of the values which the management institutions have to inculcate in the students.

Research and Teaching Methodology

Management education carries basically three kinds of research inputs in education.

1. Studies in feeder disciplines - the most important among these being social and behavioural sciences. Mathematical, biological disciplines.
2. Studies of organizational functions and processes.
3. Study of an experiment with teaching methodologies that can develop the habit of applying knowledge to deal with the problems at hand. Teaching methodologies carries few points, i.e.

- Systematic research in specific areas of study
- Consulting
- Preparation of the teaching material such as cases, exercises, management games, etc.
- Faculty seminars, exchange programs, etc.

New Era

An interaction will make management education more practical and need-based, and on the other hand, with active participation of practitioners, the problem of inadequate faculty can also be solved. The students also have to be given more exposure to practical business and industry working

The profile of an American management student is quite different from that of an Indian student American management student, with an average age of around 27 years, will have prior industry experience of 5 to 7 years before joining the management institute Whereas an Indian student, with an average age of 22 years, will have very little work experiences Therefore, a close association with industry it is desirable and mutual benefits for industry, business and the institute have to be accomplished.

Ultimately, the success of management institutions and, hence, management education, would largely depend on how quickly and soundly they are able to adopt and address themselves to the requirements of the society and the changing business environment.

"Knowledge is precious to us because, we shall never have time to complete it"

- Rabindranath Tagore

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Globalisation and Computer Education : A Critique

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Upinder Dhar[2]

Introduction

Computer education had a start-up point around 1980 in India. It was the second major after electronics education which got a modern mark. In today's date, it has grown many a time than electronics or any other major. Different factors contributed towards the magnitude and direction of this growth. Beginning with microprocessor equipped laboratories, leading to personal computers, subsequently mainframes, then workstations and now a days things like distributed processing architecture computers, is indicative of the qualitative updation and upgradation of computer education in India. Growth in the number of students, available qualified faculties, software industries and academic institutions establishes the quantitative expansion of computer education in India.

The software industry is one of the major industries which contributes substantially towards Indian economic growth. As per the World Bank survey for 1996, Indian software export was Rs. 16,000 million. The number of software export companies has gone up to 2000 in the year 1997, which was around 10 in the year 1984[4]. The companies are major potential places for accommodating computer graduates. Their markets are global, hardware and software platforms are quite modern, professionals are working across the cultures and high professional and personal ethics are required. Such type of skill requirements has created an immense need for modernization of existing computer educational system. The global markets for software and hardware products are not only modern, but due to technological revolution, they are very dynamic also. On the same line, our educational system should be modern and adaptive [*Ahiture, 1982*]. Global markets need better communicational skills, marketing potentials and total quality management concepts from professionals, apart from their computer knowledge. Again, is imperative to make our curricula interdisciplinary, enough to adopt subjects like marketing management, psychology, values, ethics, etc. Modernization of educational laboratories which, recently required hardware and software platforms and products, is essential too.

Growth of Computer Education in India

Based on a survey conducted by authors in engineering colleges and university teaching departments (Computer Science), the following data shown in table 1 and 2 was gathered :

Table -1

Years	Operating Systems	Languages/Packages Taught
1980-85	DOS 1.0, Earlier version of UNIX	FORTRAN-77, Assembly 8085, BASIC, ALGOL, ADA, COBOL
1986-90	DOS 2.0, DOS 3.0, UNIX 1.0, XENIX	PASCAL, FORTRAN 77, Dbase-III, C (beginning), ASSEMBLY 8086, ASSEMBLY 68000
1991-95	DOS 3.0 - 6.0, SCO UNIX, WIN 3.0	C (advanced), Clipper, PASCAL, FOXPRO 2.X, PROLOG, FOXBASE, Word-Star, Word Perfect, Lotus 123, Quattaro Pro 5.0
1996 & onwards	DOS 6.0 and above, WIN 3.1, WIN 95 SCO UNIX	C, FOXPRO 2.6, PROLOG, LISP, MS-OFFICE, ORACLE (introductory)

[1] Professor, Computers and MIS, Prestige Institute of Management and Research, Indore.
[2] Director, Prestige Institute of Management and Research, Indore.

Table - 2

Years	Subjects of Importance	Degrees Available	Hardwares used in Laboratories
1980-85	Discrete Maths, Data Structures, Numerical Analysis, Data Processing, Digital Electronics	B.E.	Microprocessor 8085, BBC micro, IBM-PC
1986-90	Compiler Construction, Data Structure & File, System Programming, DBMS, Operating System	B E., M.C.A. M.Tech	IBM-PC 286, Mainframes, MC 68000 trainers, Microprocessor 8086
1991-95	DBMS, Computer Graphics Parallel Computing, Software Engineering, Image Processing, Artificial Intelligence Office Automation	B E., M.C.A. M.Tech M.Sc	Sun workstation 3/50, IBM-PC 386, 86, Microprocessor 68000 trainers
1996 & onwards	Computer Networks, DBMS, Software Engineering, Computer Graphics, Artificial Intelligence	B.E., M.C.A. M.Tech M.Sc	Sun Spark 4/50, IBM-PC 486, Pentium

Proposed Model for Computer Education

Based on a survey conducted in software export industries and some secondary data from "Dataquest", "Computer Today" and other popular magazines, the following recommendations are made :

1. **Operating Systems**

The demand in the industry is for operating systems like:

MS Window NT (90%), UNIX (80%), MS Windows 95 (70%) - these are the operating systems useful on Pentium machines. The percentage in brackets indicates recommendations of the users taken world wide. MSDOS and MS Windows 3.1 environments have been recommended by 40% of potential users. Mr. Lloyd Pillusburg, CEO, 'Speciality Machines Tools', says - "We require a fair amount of assistance figuring out how to get WIN NT to co-exist with NETWARE, but working with WIN NT has been much easier than it was with other Microsoft Products" (Blanchard, 1997 70). Even Microsoft owner Bill Gates specially came to India to promote his product WIN NT over UNIX

2. **Computer Languages**

The proposed languages are listed categorically:

Procedural Languages : C, PASCAL, FORTRAN 77
Object -oriented Languages: C++, SMALL TALK 80
Artificial Intelligence Languages: PROLOG, LISP
Event Driven Programming: VISUAL C++, VISUAL BASIC

3. **Subjects of Importance**

In comparison to what is being followed, the following subjects are emphasised:

a) Object-oriented Programming
b) Relational Data Base Management System
c) System Analysis and Design

d) Case Tools
e) System Administration of Operating Systems
f) Client-Server Processing
g) Event Driven Programming
h) CAD/CAM Design
i) Simulation
j) UNIX and TCP/IP
k) The Internet

Subjects such as Artificial Intelligence, Parallel Computing are more of research interest and are recommended to be pulled low in emphasis.

3. Requirement for an Interdisciplinary Approach

The global market of software and hardware exports from Indian perspective is an across the culture issue. India is exporting software to USA, UK, South East Asia, France, Germany, Africa, Japan and a few other countries. Computer professionals from India have to go to these places to locate markets, identify customers and interact with clients to know their requirements. All these processes requires tremendous understanding of culture, psychology, personality, marketing skills [*Basandra, 1995*]. In addition, the quality standards of the global markets are very high. In view of these facts, computer education should include the following subject areas:

a) Psychology
b) International Business Environment
c) Marketing Management
d) Export Import Policies
e) International Marketing
f) Business Communications
g) Various other streams of Management Education
h) Concepts and Tools of Quality Management - Based on zero-defect concept or absolutes of quality concept, the TQM can be applied to any situation to provide the orientation towards quality management [*Timess of India, June, 1997*].
i) ISO 9000 for software and SEI-CMM - ISO 9000 is a process standard followed for quality management by all major organizations today. There are special interpretations for ISO clauses for software developers. The Software Engineering Institute (SEI) of Carnegie Mellon University has developed the Capability Maturity Model (CMM). These are two of the world's key standards on software quality, which students should learn [*Times of India, June 1997*].
j) Software Quality Assurance
k) Personal Quality

Knowledge of computer and programming are no longer enough, people with an understanding of quality management clearly have an edge.

4. New Educational Programs

Although the universities are conducting MCA, MCM, M Sc., M.Tech. and B.E. in computers, there is a need to incorporate programs dedicated to software exports, such as those being conducted by major private educational agencies like NIIT, APTECH, DATAPRO, CMC etc [*Times of India, June, 1997*]. The curricula of these diploma programs is oriented to ultimate applicability in growing Indian software industry. These diploma courses teach widely used software tools, like Power Builder 4 0, Oracle Developer 2000, Visual Basic, Visual C++, Visual FoxPro, client-server computing, which are usually missing in our regular spectrum of university degrees.

5. **Modern Laboratories**

The following recommendations are based on a survey in 20 major software export houses located at Indore and Delhi:

Hardware Platforms

- Pentium (IBM-PC 586) with 120 MHz, SVGA, Multimedia Kit
- IBM AS/400 with OS/400 and DB2 RDBMS
- IBM RISC/6000 with AIX 4.0 operating system
- Spark Sun Workstations with SUNOS.

Software Products

- MS Word, WIN 95, MS EXCEL
- Oracle Developer 2000, Report 2.5, Forms 4.5
- Power Builder 4.0
- WIN NT, UNIX as operating systems
- C, C++ as languages
- DB2 RDBMS under OS2
- The Internet, Java, HTML
- Gupta SQL, Lotus Notes, Delphi
- ERP (SAP R/3, PeopleSoft, Triron)
- Network Programming: ATM, FDDI, X.25, TCP/IP, DDK
- VC++, UNIFACE, Progress, SDK, MFC
- Visual Basic as front end tool
- TCP/IP, Novel Netware

Conclusion

Global markets are capturing the attention of the Indian software industries with future export targets of Rs. 2,00,000 million by the year 1999. The volume of software export companies will grow to 5000 in the beginning of the 21st century. Looking at these lucrative promises, today's students and professionals are expecting a lot from the existing Indian educational system. The government has realized it too and it is out to provide grants for modernization of laboratories to make them suitable for catering today's needs. Old hardware platforms should be replaced with IBM AS/400, SUN workstations and Pentiums all highly graphics oriented speedy machines. Through our research, we have discovered that Oracle, UNIX, MS WIN 95, MS ACCESS, Power Builder, etc. are widely recommended products for future use in global markets; thus our laboratories should adapt them.

Curricula should emphasize object-oriented programming over procedural programming *[Parsons, 1995]*. Emphasis on old subjects like discrete maths, automata theory, compiler constructions , etc., should be lowered. New subjects like networking, system analysis and design, RDBMS should given a higher importance. There is a tremendous need to make the computer education system interdisciplinary by including subjects such as international marketing, TQM, ISO 9000, psychology, etc. to fulfill the requirements of global work. The recommendations in this research paper are based on recent data to fulfill future needs.

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Management Education in India : Strategies and Challenges for the Next Millinium

Sudheer Dhume[1]

Historical Background

During early nineteen fifties it was evident that investment in technology and training the engineers was not enough. Managerial input was identified as a critical factor for speedy development.

It was at the recommendations of Board of Management Studies, constituted by AICTE in 1954, that four leading universities - Delhi, Bombay, Calcutta and Madras started part-time Management Programmes. In the second phase IIM (Ahmedabad) and IIM (Calcutta) were established in early 1960s, on the models of Harvard and MIT, respectively.

The nineteen eightees saw the marked growth of management institutes. In early 1990s the growth accelerated rapidly, and the mid 1990s saw the 'mushrooming' of Management Institutes - numbering nearly 500, recognised by AICTE, producing more than 20,000 MBAs a year. Added to this are the various inputs in the category of unrecognised and correspondence courses. Linear numerical growth in the absence of corresponding qualitative refinement may make MBAs of tomorrow less effective if not irrelevant.

When the whole gamut of business environment is undergoing a radical transformation, Management Education Restructuring in the areas of Design, Development and Delivery of Management programme is more a compulsion than an option It is high time now for management educationists to have a critical look at the 'past' and the 'present' of Management Education so as to evolve strategies for future. What is needed is paradigm shift in the perspective of The Academics, The Govt. and The Industry.

With this background, the paper intends to stimulate thinking on the theme of
" **Management Education in 21 st Century - Prospects and Challenges**".

Prospects and Challenges - for Achieving What Mission ?

The mission of Management Education is to create adequate human resource capable of managing business and non business situations so as to be instrumental in all-round prosperity of the society.

In other words, the Mission of Management Education is to create a Management Culture for the prosperity.

Prosperity of the Society is the responsibility of Management Academics, the Industry and certainly that of the Govt.

In the light of this fact there is no option but to have a collaborative effort and finer alignment of one element with the other to ensure that the Management Education of future contributes positively to the process of achieving the mission.

New Challenges of 21st Century - Necessity for Alternative Perspective

Need for alternative perspective arises :

1] If one realizes that present perspective will not be appropriate for future times.
2] Or if present perspective is not yielding favorable results at present times.

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3] Or if there is a lack of consistent and complementary perspective among all the parties concerned, which is leading us no-where.

4] Or a combination of these.

We have realized that the conventional stand point has ceased to yield the desired results. The Macro-environmental factors (especially Techno Economic and Socio Political) have radically altered. We can not adhere to old assumptions which are not only outdated and irrelevant, but are absolutely faulty in changed and changing times.

The style, substance, structure and delivery of the Management Education of present status may not lead us towards the mission of creating the Management Culture for prosperity. The MBAs we produce are branded by many as white elephants, shallow and superficial - with no practical worth - only rich with jargon Some say that there is no relevance between what they are taught and what they have to perform. Few others go to the extent of giving a reorientation programme to the selected fresh MBAs which they call as "Unlearning.Exercises".

To quote Dr. K.C.S. Ranganayakalu (Indian Management, 1995 August Issue).

"Graduates from Management Institutions seem to have short term orientation and lack organisational loyalty. They are perceived to lack interpersonal competence and organisations have found it difficult to absorb them. The MBAs once looked upon as white elephants have now turned out to be unwanted."

These are just a few preliminary warning signals of the declining faith in present Management Education. The fast approaching future need to be managed effectively. An inappropriate perspective is bound to cause disastrous consequences in the form of 'Future Shock" challenging the very existence of Management Institutes and Management Academics.

This reality leaves us with no option but to revive and revise our perspective for the Management education of future.

Why the present of Management Education System is Losing the Relevance - and Why it May be Misfit for Future Times ?

The analysis of the causal factors for the adverse trend will enable us to evolve strategies to counter it by leading us to an alternative perspective.

The following are some of the prominent causal factors which are operating in combinations for the consequences mentioned earlier.

1] Relatively recent history of Management Education in India.

Unlike American and European Management Education Systems which evolved gradually right from late 19th century, Indian Management Education has a much recent origin which can be traced to early the 1960s.

Besides, rapidly changing socio-economic environment coupled with information technology revolution has necessitated the restructuring of the Management Education System in India well before acquiring a stable structure.

This in turn makes it more difficult to design and deliver the Management programme which best suits the present and future needs.

2] Demand Supply Gap

Even though there are around 500 Management Institutes recognised by AICTE producing around 20,000 MBAs a year, the demand is estimated to be more than 40 to 50 thousand per year. Management experts like Rajat Gupta of McKensey believe that we need to produce more Management graduates than what we are doing. This shortage has unfortunately created a notion that we are in the sellers market - and we need not have to refine and update our products so as to make them acceptable by the market.

In other words, the relatively easy placement (basically consequence of liberalisation) has come in the way of upgradation and modification of the Management programmes to suit the needs of changing times.

3] Inertia with the system and insulation from realities.

Business Management Education System is supposed to keep a constant vigil on changing environment and react (rather proact) accordingly. We should accept the fact that we have not maintained pace with the changing times. Management Education got itself insulated from the rest of the world. If many people allege that 'Management Educationists sit on the 'ivory tower' without their feet on ground realities" there must be some element of truth in it.

The interpretation of the realities based on faulty assumption and no first hand information is bound to create a mismatch between reality and perception. The management programme which is on outcome of such perception is more likely to be a misfit for the needs of society of present and future times.

4] Orientation Problem

A lot is being talked about giving practical orientation to MBA programme. Only by increasing the period of summer inplant training, giving more outdoor assignments or by inviting more and more working managers as visiting faculty will not automatically bring about this practical orientation

The faculty should know what precise roles and responsibilities the students will be taking on passing out. and should have the answers to questions like "Are we making researchers?" "Are we making CEOs?" Are we making executives who will be doing planning or executing or all of those things? Or something else?" , " Are we making executives for SSIs/MSIs or for MNCs or for voluntary organisations?" The absence of right answers to these and many related questions leads the Management Education to be descriptive. The MBAs produced with this kind of (no) orientation will be misfits every where.

5] Transplanting of Western Education

Transplanting in the absence of modification to suit the socio-cultural background and economic realities creates the problem in assimilation and application

Blindly preaching and practicing the theories and models just because they are a part of Western literature is not desirable. These theories may need modifications to suit our indigenous realities. In the absence of such alterations and modifications the theory taught may not be practicable. With more and more gap between theory and practicability, less and less will be the relevance of Management Education and Management Educated.

6] Problem of No/faulty mission and synchronised efforts

If Management institute - an agency of imparting management education has no clearly defined mission, its potential energy remains untapped in the absence of direction

Inadequate corresponding support from the Government and the Industry complicates the scene further. This in turn affects the design and delivery of Management Programme of the required substance and quality.

Brightening the Prospects of Management Education in 21st Century - by Bringing About Paradigm Shift in Our Prientation

An insight to the background of Management Education scenario in India with an analysis of consequences, leads us further to evolve new options and strategies for Management Education for future, based on alternative perspective.

1] We need to identify and modify the Wrong Assumptions like :

a] The Management education imparted by us can never be irrelevant.

b] Demand for management graduates is more than supply; hence we can afford to ignore quality standards.

c] We know very well what the industries expect from the management graduates.

d] We are experts in the field of business management and we can get more expertise only by reading more Western literature.

e] Management Education is par with conventional Post Graduate Education - hence at requires the same approach, orientation and perspective.

2] We need to have a "Holistic" view of the system , redefine the role and relationships amongst its constituents so as to match with changed realities. (Figure 2.1)

We need to ask ourselves specific questions like :

" What business we are in ?"
" Who all are involved in the system?"
" Who are our customers?"
" What are and what will be their needs?"

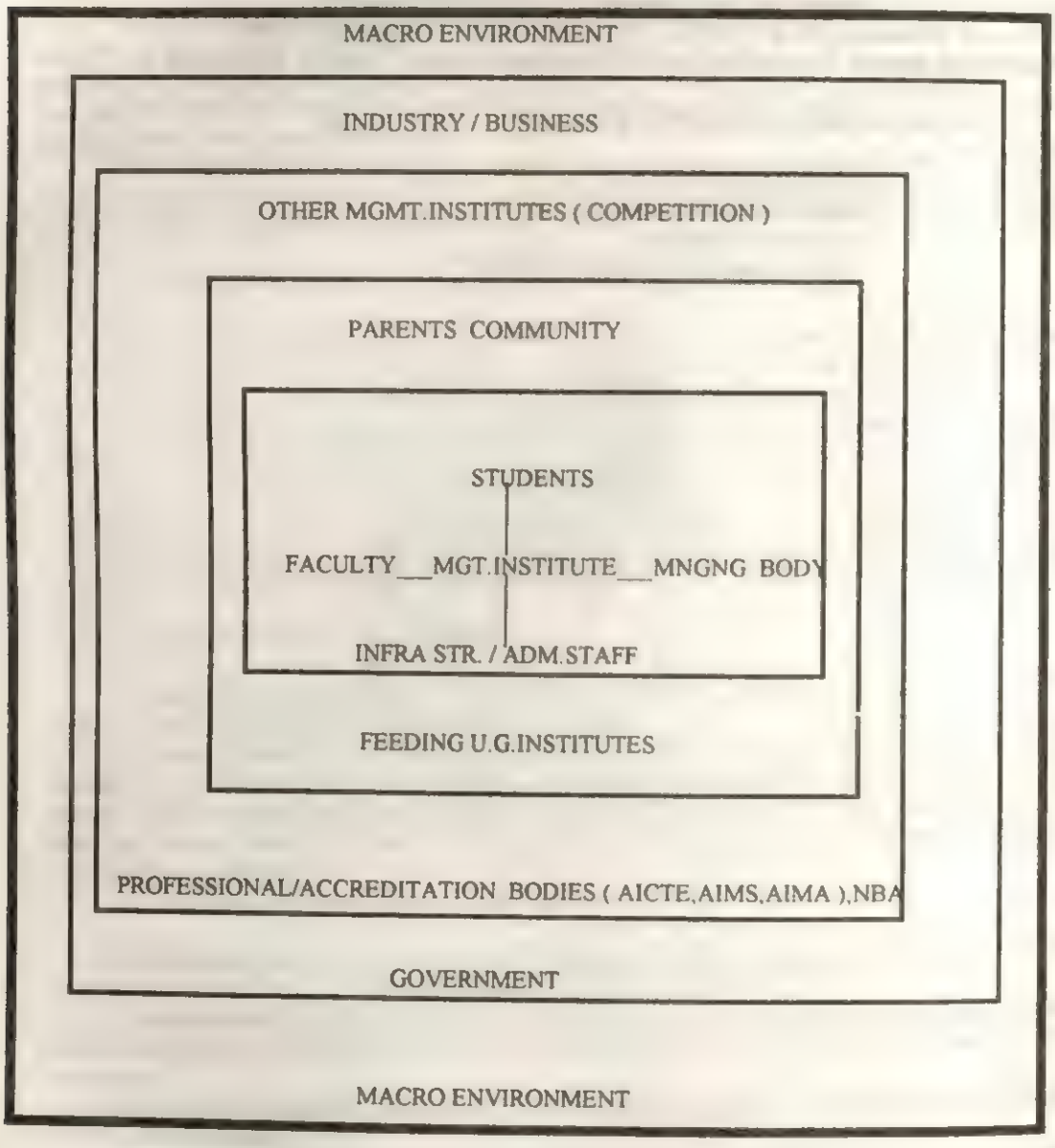

Figure 2.1

(Holistic view of Management Education System)

Key to abbreviations used?

It is the collective and collaborative effort of these prominent parties of the system that can introduce changes in the Management Education so that it becomes relevant for future times.

3. We need to understand the changing pattern of expectations from Management Education.

TimeSpan → / ↓Change area	PAST (Pre liberalisation era)	PRESENT (Transitionary Phase)	FUTURE (Post liberalisation era)
Environment -	Stable & Protected	Dynamic	Volatile
Outcomes -	Predictable	Less predictable	Unpredictable
Nature of job of Management Graduates -	Repetitive Individualistic tasks	Logical Decisions, Team efforts	Creative & Innovative decisions, more team efforts
Sphere of operations -	Local/Regional	National/International	Global
Nature of appropriate Management Education -	Descriptive	Analytical	Tangential/Divergent

As the environment, in which business operates, has been changing radically from stable and protected to dynamic and volatile, correspondingly the jobs of the executives have also been depicting change The place of repetitive and logical decisions will be taken by creative and innovative decisions. Individual excellence will be subordinated to collective achievements.

In this background the management programmes for the future will have to be designed and delivered in such a way that they enhance the skills expected from the executives in the changed environment. Classical theories and old quantitative models may not bring about enough value addition in the management graduates so as to enable them to perform effectively.

The composition of the programmes will have to be loaded with new inputs in the form of :

1] Team building/Synergy/Empathy
2] Communication skills
3] Cross-cultural and global perspective
4] Creativity and innovativeness - to enhance the ability of creating and selling new ideas.
5] Management and use of high tech devices and gadgets.
6] Management conflicts/crisies.
7] Management of change.
8] Management of quality.
9] Ethics /moral values/integrity/commitment and integrative skills

Most of these will be aimed at mindset modification and attitude change emphasizing on unlearning and relearning.

4.We need to identify the areas of collaborations and synergy.

Management institutes, instead of operating in isolation or in competition with the other institutions, can explore the possibilities of collaborative efforts. This will not only add to strength but also will lead to quality refinement and opening new horizon.

The possibilities of collaboration can be faculty at students levels and:

1] Between various Management Institutes
2] between Management Institutes and Technological Institutes.
3] Between Management Institutes and feeder undergraduate educational institutes.
4] Between Management Institutes and past students.

5. We need to explore the possibility of Industry-Institute collaboration/Interaction by encouraging :

1] Consultancy / Research Activity
2] Case Writing
3] Sponsored candidates for MBA (Indo German Management Center - Model)
4]Compulsory Industry exposure to the faculty for fixed duration on Sabbaticals
5] Joint syllabus boards.
6] Joint Selection Committees Research Projects.

6.We need to accept and encourage systems like :

All India Common Admission Tests at Entry level.
All India Common Proficiency Tests at Exit level.

7. We need to strive for Marketing the Indianised Management Education internationally and collaborations with overseas management bodies.

8. We need to tap overseas Indian management related manpower resource pool.

9. We need to encourage and practice Niche area focus.

10. We need to encourage continuous faculty development.

- Creating an apex professional body
- Encourage exposure and exchange programmes globally.
- Standardise faculty evaluation system.
- Compulsory industry experience.

11. We need to explore innovative teaching methods for effective delivery and desired change in the form of simulation, participative learning aided by high-tech teaching aids.

Conclusion

Economic development is the function of Natural Resource, Technology and Management Competence. The last component is found to be inadequate in the Indian context.

Management Culture with professionalism of the highest order is the only passport for smooth transition from "The past" to "The future"

In order to face the challenges of future, there is no choice but to bring about a radical modification of our mindsets, redefine our missions, alter our perceptions of roles and relationships and evolve the new strategies based on the alternative perspective **for the Management Education Of 21st Century .**

Education in Private Sector Management : An Indian Experience

G. Venkatswamy[1]
Abha Singh[2]

Introduction

The long overdue process of economic liberalization and globalization set in motion since 1991, perhaps rightly placed new responsibilities on the private sector besides giving a jolt to the public sector. While the Central and State Governments spend the major chunk of amount, the private sector spends little on education. In view of the failure of the Nehruvian and socialistic policies pursued for over four decades in the country, there has been a reassessment of the role of the private sector. Despite the state, education in India has not made the kind of strides it should have made in 50 years of Independence. This has given rise to debates about the need to privatise education in India. An all out privatisation may not be the answer, instead the private involvement in education seems to be a viable praposition. On the other hand educationists, by and large, in the country are not against improving the participation rate of the private sector. However, they insist on the maintenance of standards and quality.

Increasing globalization of economy, growth of individual sector in India coupled with competition for limited resources has brought unprecedented pressures and challenges to the management education in recent years. At the same time, as a discipline, it has also offered an opportunity to improve the economic growth and the quality of life. The need for professional management education has never been more crucial than today, specially in the era of current liberalisation.

In view of the greater demand for a large number of managers, the existing institutional infrastructural facilities have become inadequate both in public and private sector. This of course resulted in sudden mushroom growth of institutions. Such growth, needless to say, has resulted in a number of problems. Some of them include admissions, curriculum, lack of competent faculty, lack of industry-institution interface, inadequate staff, lack of professionalism in managing affairs of these institutions, poor supervision by affiliating agencies, competition from foreign universities and so on.

Growth of Management Institutions

The need for the formal management education was recognised in 1950s in the country. Since the growth has been quite phenomenal. In the past several decades, the issue of the relevance and need for the management graduates has also been well established within the Indian industry and the demand of the management graduates have been on a steady rise. To meet the requirements and to exploit the opportunity provided by this increasing demand for management graduates, the number of management education institutions have also multiplied (Table 1).

Table 1 : Growth of Management Institutions in India

Sl. No.	Type of Institution	1950-59	1960-69	1970-79	1980-89	1990-97	Total
1.	Indian Institute of Management*	-	2	1	1	2	6
2.	Management Education Department/Schools of (i) Other National Level	18	6	6	6	7	18

[1] Director and Dean, C.M.D. Modingar.
[2] Faculty Member, C.M.D. Modingar.

	Institutions (14) (ii) Sector specific Institutions (23) (iii) Central Universities (6)						
3.	Management Departments of State University	3	7	28	38	8	84
4.	Other Institutions	11	7	13	24	312	367
	Total	32	22	48	69	329	500

* IIMs - Ahmedabad, Calcutta, Bangalore, Lucknow, Indore, and Calicut

These institutions are emerging as one of the most preferred areas of study of graduates in recent years in India. As per data available the 1950s, the growth of management institutions was only 6.4% whereas in 1990s it has increased to 65.8%. Further it is gaining importance with the national policy on globalization of economy and a Also the encouragement provided by the Government No other discipline has gained such prominence in recent years.

Management Education Vis-a-Vis Foreign Institutions

Managment Education (ME) today all over the world, particularly in India, has opened new vistas in the changing business scenario. The future managers of the corporate world is expected to be high on quality, which can be achieved only through technology based management training. There is a shortage of a least 20,000 MBAs in the country in the wake of globalisation, strategic alliances, resourcing, re-engineering, bench-marking, down sizing and growth of competition in the world market. Presently, the IIMs and other recognised Management Institutions (MI) by and large provide 3,000 MBAs to the industry. Hence there is a requirement for training graduates through ME preparing them to meet the on-going global challenges through effective leadership

Extent of Competition from Foreign Institutions

In recent days many foreign universities and institutions are coming the country for expanding their management and technical education. Some of them are entering into collaboration with Indian institutions. All management programmes which are conducted by foreign universities perhaps do not lay much emphasis on the Indian environment. Therefore, MIs will have to appropriately modify their curriculum to suit Indian conditions. Secondly it is desirable to expose Indian students in foreign business organisations. Recently, some of these institutions like Association of Professional Engineers, Scientists and Managers, Australia, (APESMA);, Wigan and Leigh College, U.K., Deakin University of Australia; American College of London; Monterey Institute of International Studies, Monterey; Hottem Street, London (HSL);Templeton Oxford University, Solvay Business School, Belgium; Warwick Business School, England,; Schiller International University, London; Newsport University, California, Amsterdam Institute of Finance, Netherlands; Pacific Western University, Honolulu; University of Canterbury, News Zealand; et al. have entered the country.

With this kind of arrangements the full benefit of liberalisation of globalisation in ME is yet to be seen. This may bring about many changes in the organization, management, administration and the very business environment in the industrial, business, service and agricultural sector of the economy in the long run. Joint ventures will increase competition among the business schools within the country calling for many changes. Inveitably there has to be a greater collaboration with foreign business houses and industries on that account. This is bound to improve the entire business atmosphere in terms of quality due to impact of advanced foreign technical and technological knowhow as well as better organizational skills. But the Indian partners should also ensure that they get full benefit of international collaboration. Recently some of India's most high profile personalities are even working together for joint venture of new kind, for instance McKinsey Global Management University - an institution on the lines of the world's best Business Schools.

Role of Management Education : Some Reflections

ME is one of the significant components of Human Resource Development in the country with greater potential for adding value to the products and services and for contributing to the national economy and quality of life of the people. The implications for the Indian management education are manifold. The direct implications arise out of socio-economic changes that are envisaged in the economic reforms which will necessitate a change in the role that the products of management education is also a part of the Indian educational system. The basic purpose of higher education is to provide trained manpower in different areas of societal needs. It is the repository of knowledge and instrument of change through people for the good of the society. it contributes to national development through dissemination of specialised knowledge and skills. it is, therefore, a crucial factor for survival. Higher education has made substantial contribution to the development of modern technology leading to increased food production, industrial development, revolution in communication technology and advent of life saving medical techniques. Further, management education system too can be made more productive and responsive to societal needs if it is managed on the principles which lead to achieving excellence in many industrial and non-profit organisations. Different communications and committees constituted for improving the education system in the country have stressed the evolvement of organizational system and management practices based on contemporary societal environment and requirements. We can expect to have a more competitive, more productive and more modern society.

Faculty Role

One of the main actors in Management Institution is the faculty who play an important role in shaping the future managers. Faculty recruitment is done presently through advertisement in the newspapers and magazines of national repute. Applicants should have certain minimum qualification as laid down by UGC/AICTE. After applications are screened, the shortlisted candidates are called for interview. The interviews are held by individual institutions. As we have seen, the institutions are growing in numbers there is a constant demand of more qualified and experienced faculty. Experience shows that these institutions neither plan for the faculty recruitment nor is there national institute for supplying faculties of competence and repute to these institutions. Further it is also noticed that there is a trend to move good managers to these institutes. Managers of this kind may be invited for maintaining quality teaching. There is a lack of experienced, talented and acceptable teachers in the field of management education who can correlate the theory and pratice together. For maintaining quality and achieving excellence in management education, continuous faculty development is highly essential. The faculty should be trained in a variety of other new techniques such as audio-visual aids, LCD projection system, computers and application of case methods, role playing, simulation, business and management games, etc., as a part of institutional strategies. ME need to develop group learning competencies, both at operational and strategic level, in the students.

We find junior and experienced teachers in business schools lack, by and large, industrial exposure, and faculty from industry may lack up-to-date theoretical knowledge. At present there is no centralized facility for providing induction/training to the aspirants who wish to become management faculty; on the other hand there is no proper entry system into the management education. This needs immediate attention of the Govt., industry and business schools. To maintain academic standards through discipline and better administration the UGC, AICTE and other professional bodies should encourage sponorship to the faculty members for research and case preparation in specified fields of interest. Institutes must develop indigenous case material and expose themselves to industrial environment and their problems besides regular exchange programs.

Faculty members in management schools will have to become learning managers. If faculty members have the potential to gain practical knowledge in specified area, the institutes may provide them the opportunity to work in the industry on deputation basis, so that they can sharpen their research and teaching skills.

As many business houses in the private sector like Modi, Usha, Bajaj, Birla, Tata and Nirma Group, etc., have promoted business schools in the country which are imparting quality management education, in the same way they can take initiative in establishing Management Educators Training

Institute (METI) where they can develop teachers in the area of communication, business and economic awareness, research and in one specific area of choice. These institutes can also impart practical/in-plant training to the participants in their respective fields.

Students : Selection for the Course

Almost all autonomous management schools of some repute use a written admission test followed by GD and interview of candidates shortlisted on the basis of their performance in the written test. This suggests that the admission test is expected to measure potential abilities of candidates that are broadly connected with information processing and reasoning while dealing with a given problem. Management schools at the national level set the objective of admission as to select the best candidates with a different stream - backgrounds from the universe of applicants who have high probability of success during his/her studies in management school and expected to be potentially successful managers in a challenging and globally competitive environment.

All IIMs and major management schools (XLRI, University Departments) use a written admission test. Some schools of repute use Common Admission Test (CAT) of IIMs for their admission and still some others use MANAGEMENT APTITUTE TEST (MAT) (AIMA) or their own written test. CAT is a common test for all IIMs. Each IIM is free to choose the way they want on the criteria defined by them. Similarly, some other institutions follow MAR. After qualifying in the written tests shortlisted candidates are called for Group Discussion and Interviews. A merit list is prepared on the basis of their performance before the student spared admitted the institution. The student composition thus consists of work experienced and fresh graduates with varied backgrounds.

Industry Interface

Teaching methodologies must therefore be oriented to real life, at the same time they must be contemorary and relevant to the Indian context. After almost 30 years of management teaching in India, we do not have adequate real life case material. Teaching must be up to date in its concepts and relevant in its context. Only a few teachers of management in India have actual work experience in business, either through personal practice or through intensive consulting on research and case collection. To some extent the existing gap in interface between industry and institution can be made up. In the curriculum development also not only the subject experts but also the users must have their place in making it. Those who are taking the products of business schools, like the industries, the business and other agencies should take part in curriculum development. Management education at its best gives its students a better understanding of what is going on and enhanced ability to grasp problems and suggest solutions.

In spite of various problems that exist in private business schools, it appears that students prefer to join private management institutes. This is because of the provision of certain infrastructural facilities which are not available in traditional universities. Secondly, due to autonomus nature, the flexibility in restructruing the course contents and introduction of new courses. Thirdly, flexibility in recruiting faculty from Industry and other places on higher emoluments as compared to traditional universities. Fourthly becuase of the flexibility in the composition of faculty and infrastructural facility, the productivity in some of the institutions is of higher order.

Placement Myth

Students come to a management Institute /department not only for good education but also for well paid jobs, and fast track careers. All the students, and parents look for good placements. A institute needless to say, is known by its placement. Therefore, it is important to look into this activity these institutions. Creation of separate departments, manning them with experienced staff, adequate infrastructure so as to establish support with various industries go a long way in strengthening these programmes.

Management Development Centres

Some of these business schools have separate management training centres or they have the practice of conducting management development programmes. They have, by and large, two days to one week programmes in different areas like general management, marketing management, Human Resource Management, Financial Management, Project Management, etc. It may be noted that having this kind of programmes on the campus would give two fold benefits. First, the faculty would be benefitted because of interaction with senior executives associated with these programmes. Secondly, these executives would also mix with the students to share their experiences. These institutions function on self-finance basis; the earnings of these units may increase further expansion. Lastly, the image of the institution in the industrial sector, of course, would be enhanced.

Some Relevant Cases

The following cases depict the picture of private management schools in the Indian context. These cases relate to all the details concerning their infrastructural facilities, faculty, courses and content, placement, future plans, etc. Even though these cases are real, the real names of the organisations are comouflaged.

Case I

Taurus Institute of Management (TIM) was established in 1957 as an apex body with and active support from Ministry of HRD, Govt. of India. It is the main body to pool management thoughts in the country, a forum to develop national managerial ethos, an organisation to facilities the furtherance of the management profession and its contribution to society.

TIM Institute the is premier national apex body of management profession in the country having a nationwide network of 53 local Management Associations and a large membership base of corporate and individual professional members has been engaged in the development of professional management and sharpening of competitive edge of managers through its management development programmes and national events organized round the year all over the country.

TIM institute maintains close links with a number of overseas professional bodies and institutions like American Market Association, USA and the Institute of Management, U.K. It is also a pioneer in distance education. Currently more than 5000 working managers are enrolled in the various distance (Open Learning) programmes. Today it is the second largest business school in the country with over 5000 students enrolled in its various distance learning management education programs including its internationally accepted MBA to equivalent programme Post Graduate Diploma in Management. It has also established a full-fledged trans-national programme centre to bring India world class management programs from leading institutions overseas.

Case II

The Libra Business School (LBS) promoted by the foundation society and is supported by group of companies. This institute enjoys all facilities on a 15 acre campus and is developing fast as the biggest business and entrepreneurial centre in Asia.

The All India Council for Technical Education (AICTE), Govt. of India has approved LBS and given recognition to the Post Graduate Diploma in Management which is equivalent to the MBA degree. It has an in-take of 250 students. But, the capacity of the Institute is about 1200 students per year. It is planning to establish fulfledged corporate resource centre.

At Libra Business School the students, faculty, staff and management have common goals in a spirit that is dynamic, team oriented and intellectually stimulating to create an environment that is exceptional. The vision and objective of Libra Institute is to give students new visions, new ambitions and equip them with an analytical outlook for decision-making in the ever-changing Indian and international business environments.

Case III

Aries Institute of Management Studies (AIMS) was established in 1965 for imparting management education through a university department. It was founded to harness and have the latest managerial potential in the country. The guiding vision of the institute is one of evolving an indigenous design of management education in line with the contemporary demands of both, the national and global environment.

The Institute offers a variety of academic programs, spanning the entire spectrum of areas of managerial specialization. It offers full time programmes of two year Master Degree in Managerial Studies and also part-time programs and Doctoral programme in Management Studies

Research and consultancy are viewed as an integral and vital aspect of the activities at the Institute. The management development programs by the Institute are offered to the industry Apart from active participation of the resident and visiting faculty the students also make a concerted effort in contributing to the efficiency of these projects The emphasis of the institute on research and consultancy serves to establish and sustain a vital link between the world of academics and the world of business

The Institute's mission and objectives is to produce complete managers-individuals who can cope successfully with the rapidly changing circumstances that are a part of business life.

Management Education in India
What is the Destination?

K. Ramakrishnan[1]

The Present Scenario

India is celebrating her 50th year of political freedom. She achieved her independence using a unique non-violent method, an Indian originality, which has been acclaimed by the entire world. The struggle for economic independence of India is in a critical stage. Twenty-first century will add numerous challenges to it. The Indian industries and business organisations are emerging out of their erstwhile protected and conservative environment to face the world competition. The globalisation of the market, liberalisation of Indian economy and the entry of multi-nationals into the domestic and international markets of Indian firms, are sending out shock-waves through the corporate sector in the country. This situation is an inescapable eventuality. The Indian economy has got to grow up. The Indian Corporations must rise up to the challenges.

This 'do or die' situation calls for commanding all the resources at our disposal. Of all the resources, we know, the Human Resource is the most significant. We have it. Our strength is our people. We have to cut and shape them to meet the challenges and reach our targets.

We need managers to spear-head our efforts. Just not managers, but dynamic, innovative leaders with foresight. keeping this requirement in view, the Ministry of Human Resource Development, Government of India, initiated certain measures a few years ago. One such measure was related to the standardisation and quality assurance of management education. An Act called AICTE Act was passed in 1987 and the AICTE (All Indian Council for Technical Education) was formally constituted a few years later. Management Education comes under the purview of the AICTE along with Technical Education.

At the end of 1995, there were 422 management educational institutions approved by the AICTE. These included two IIMs and also the management schools started by the Universities. These institutions, spread over 22 states of the country, were bringing out about 39,000 management graduates every year, through two year full-time MBA/PG Diploma in management, part-time courses and Distance Education.

There are a number of other leading well--established management institutes, say, the other IIMs, Tata Institute of Social Sciences' etc., which did not seek the approval of the AICTE. A few more new management institutes were given approval during 1996-97 by the AICTE. As per a very conservative estimate, not less than 45,000 fresh management graduates enter the market every year seeking suitable placements.

The Employment Scene

The employers from the corporate sector have no hesitation in expressing their preference, while advertising vacancies in the management cadre. They prefer graduates from IIMs or other institutions of equal standing.

It is not that they are entirely satisfied by the performance of these graduates. Their attitudes and egoism often make them a misfit within the organisational culture of the employing organisations. The turn-over of the IIM graduates in organisations is quite high. Their stay, in a majority of the cases, ranges from 6 months to 18 months.

This pathetic organisational loyalty of the IIM graduates makes one believe that the IIM education is a national waste. This assessment is strengthened by the fact, as one of the eminent IIM professors puts, "IIMs convert most outstanding engineering graduates as sales persons to sell biscuits and tooth paste." They take the engineering graduates coming out of the IITs, or similar prestigious engineering colleges. This practice was supported and encouraged by the Government on the ground,

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people have the right to learn what they want. It looks plausible, but the national wastage in terms of the cost of engineering education, and the misuse of highly skilled productive human resource is not taken cognisance of. It is a tragedy.

Yet, the employers prefer them. There are two specific reasons. One, as a mark of prestige, that they employ only the best even if they are costly. It adds to the company's image, when the Annual Reports take the information across. The second reason is, they are not aware of the quality of the graduates from other management institutions, or, their impression that in the `New Generation' management institutes and the university management schools, the education is sub-standard. The result is that the management graduates from the second category of management institutions remain unemployed because, there are no takers for them. Of course, there are a few who find their way to some of the organisations, using their own contacts and influence.

Loss of Direction

The employment scene cited above is just a small segment of the middle in the area of management education. Numerous evils have crept into this area, to be specific, during the last five or six years. The future of many bright and dynamic young men and women is at stake. The country may add another serious problem to her stock, the problem of unemployment, under-employment or mis-utilisation of the most productive human resource required for nation-building activities.

The findings of a survey conducted by the Accreditation Body constituted by the University Grants Commission, was published during July 1997. The report says that only about 12 management educational institutions maintain some kind of standard and hence are considered for rating. This is an indication of our miscalculated destination. A close look at some of the serious draw backs in the system would be appropriate :

a. Educational Casteism

The role of Universities is to impart knowledge and generate new knowledge through research. The aim is human resource development. Over the years, the universities were neglected. They lost their credibility and respectability. Lack of funds, politicalisation and mis-management by incapable persons are some of the reasons. Instead of strengthening the universities, through suitable changes in legislation, the Central Government invested a huge amount of money to create the IIMs. What was the need? The IIMs, thus, became elite institutions, for elite people, to bring out managers for elite organisations. What is the gain? Educational casteism, which has divided the young people of India, and the Indian managers.

b. Commercialisation

The AICTE was established to ensure quality of management and technical education. But, it has not been upto the Government's expectations. Approvals to start management education were granted indiscriminately. Institutes are run in 3 bed-roomed apartments, in the corridors of the existing schools and colleges. Institutes involved in unethical practices in education, were given approval to conduct management courses like MBA of Newport University, Collaboration with New Hamshire College, MBA of Leeds University, etc. - are some examples. High Court of Chennai has passed an order curbing these courses (July 30, 97). This is noteworthy. There are many agencies both from within the country and from abroad misleading and exploiting the innocent young Indians. neither the Indian Government, nor any other agency are bothered about the happenings.

In spite of specifying the fee-limits, the institutions charge the fees they like. A discreet inquiry would show that taking donations, ranging from 75,000 to 1.5 lakhs, on the quiet, is in vogue, in many places.

c. **Crowded Classes**

Management Education needs intensive care, attention and guidance. Only through personal attention, the students can be moulded to become effective managers. This is not possible in a class filled with 60 or 90 students. The AICTE permits upto 60 students in one class. Some institutes get permission to admit 90 students, promising to split them into two batches of 45 each. In practice, this does not happen.

d. **Shortage of Qualified Faculty Members**

There is an acute shortage of qualified, capable and committed management teachers. Even if available, they may not be willing to take up teaching jobs, for a paltry sum, when they could get a job in an industry or other organisation with three or four times larger salary. Competent faculty strength is the real yard-stick to measure the standard of an institution.

e. **Improper Admission Procedure**

Every management institute must have its own objectives and standards; most of them do have these, at least on paper. But, when it comes to the decision with regard to the quality of the students to be admitted, they leave the job to someone else. We have a few testing agencies, who do it just to make money. Their tests have no relation to the objectives of the institution. The methods employed in testing are often questionable.

A recent addition to this business of testing, is the coaching agencies. These agencies, perhaps, in collaboration with the testing agencies, conduct class-room or postal coaching to prepare the candidates for the admission tests. The fees charged are disproportionately high and what for? The whole system of management education, thus, gets diluted.

f. **Confusion in the Employment Market**

Management institutes are run by religious bodies, sadhus, sanyasinies, industries, business houses, retired officials, and many more. From this jungle of management institutions, the employing organisations find it extremely difficult to identify suitable candidates for their organisations. The situation becomes more complex when these institutions are not affiliated to any university and issue their own certificates. To top it all, each one follows its own curriculum, teaching method and examination system.

The Destination

The present pursuit in management education is disastrous. A determined and urgent intervention is called for in the following lines:

a. **Curb Commercialisation**

This involves strict enforcement of standards, with regard to the infrastructure, curriculum and qualified and competent teaching faculty. It is necessary to ensure accessibility, to the courses, of the deserving students from the middle or lower middle class social strata. The fee structure is the main question, and the prohibition of donations or collection of unauthorised money in any other form.

b. **Financial Help in the Form of Loans**

Once the deserving institutions are identified, banks or government agencies must come forward to help them to develop the infrastructure and other facilities. The financial help could be in the form of long-term loans with marginal rate of interest. Education is a social service. It is the responsibility of the

government, as well. This is more relevant today, when the government is planning to reduce the subsidies for higher education from 90 per cent to 50 per cent and bringing it down further to 25 per cent over the next two years. The UGC is looking into the matter now.

c. Reduce the Class Strength

With a view to providing individual attention and facilitating guided development of the students, the class strength may have to be reduced to a maximum of 40. Financial viability could be one hurdle. This could be solved by sanctioning a strength of 80, to be divided into two sections of 40 each, for the same batch.

d. Industry - Institution Linkage

The shortage of faculty members with practical managerial experience can be solved. The way is to establish long-term on-going close relationship with industries or large-scale business houses. Senior executives from different functional areas of management could continuously, in rotation, provide the faculty support at a small cost. Besides, the students also can gain short-term work experience through summer placements, and undertaking small projects for the organisation.

The industries could benefit indirectly by providing suitable inputs to modify the curriculum, so that the graduates coming out from the institutes match their requirements.

e. Faculty Development

Permanent faculty members, particularly, those with less teaching experience must be exposed to various kinds of development programmes. Besides, the management teaching methods, the programme must contain in-depth and upto date subject knowledge.

f. Discourage Stream Mixture

The IITs were established with an intention of providing competent engineers to manage the production/engineering departments of our industries. They are educated keeping that objective in mind. The financial involvement of the nation in the engineering education is quite substantial. The switching of engineering graduates to marketing or any other non-engineering jobs is a national wastage. If they wish to have management education also, it could be integrated with the engineering education. Introducing another MBA programme by the IITs, or the graduates joining another management course elsewhere are is certainly not the answers.

Conclusion

The present management education scenario in India is directionless. The objective of majority of the management institutions are not achieving excellence in management education in the real sense, but making money. This precisely, is the cause for alarm.

The world conference, perhaps, could serve as a forum for sharing world experience in the field of management education. A brief face to face exchange of views with experts may go a long way in mutually beneficial collaborations and in establishing long- term relationships. The market is becoming boundaryless, the economy is being globalised, the education in the world, then, cannot be an exception and remain in isolation.

Management Education In India-A Perspective

Vijaya Manerikar[1]

Introduction

Management Education, as a deliberate professional choice, came to the forefront in Indian business scenario in thernneteen sixties, through the onset of management institutions like Jamnalal Bajaj Institute of Management Studies (JBIMS), University of Bombay, & Indian Institute of Management Studies (Ahmedabad & Calcutta), etc. However things in 60's and things now are different. In fact, totally different In the 1960s Management Education had made, but, a small dent into the socio-economic system of our country. In the 1960s, the environment was restricted and the Government policy was geared to operate in a sheltered, controlled mixed economy.

Today Management Education has come to acquire the status of the most coveted post-graduate education degree in India. This is a field to which people from background as diverse as Arts, Commerce, Engineering and Science vie with each other to make their entry.

Management Education played an important part in contributing to the process of professionalisation of Indian Business and industry. It has fulfilled its responsibility towards the Industry by conducting various need-based Training/Research and Consultancy Programmes for different organisations-Government-Public/Private/Multinational, large-small & medium sized.

It is in this context, that one lays down some musings on the projected image of Management Education in India and the kind of things that may have to be done in order to uphold management education related activities.

This paper, which is presented in two parts, attempts to :

1. Understand the perceptions of industry about the Indian Management Education and management graduates and effect a match between the two (Part-I)
2. Characterise the Management Education in the emerging era in the context of the present perspective. (Part-II)

Part-I

- **Objective:** To find out the perceptions of corporate world about MBAs in particular and business schools in general.

- **Data collection/Methodology/Sample**

  Keeping in mind the above objective a questionnaire was designed with a view to find out the existing perceptions of the corporate world about the Management graduates Management education (Annexure-1).

  The data was collected (using the above methodology) on a sample of 150 respondents. The characteristics of the sample/distribution is presented in Fig.1.

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Fig.1.

Sample Distribution

Cadre
Levels of Managements

Particulars	Percentage
Junior	19%
Middle	37%
Senior	44%

Age

Particulars	Percentage
> 45	26%
35-45	39%
25-35	27%
< 25	8%

Category

Particulars	Percentage
Teachers	28%
Management Consultants	29%
Professional Managers	43%

It may be noted here that this is just a pilot study.

Analysis & Findings

Data was analysed qualitatively and quantitatively, and the profiles of perception with respect to Management graduates and Management Schools were formulated.

The emerging profiles are presented in terms of the strength and weakness as follows:

1. Strength and weakness pertaining to Business Schools.
2. Strength and weakness pertaining to Management Graduates.

Findings
Regarding Business Schools :

Strengths :

- Faculty possess relevant exposure to industry.
- Anticipate business needs.
- High level of interaction between students and faculty.
- Inculcate skills of time management.
- Symbiotic relationship between industry and institutes.
- Capable of producing leaders.

Findings
Regarding Business Schools :

Weaknesses :

- No standardisation between course contents of different Institutes/Universities.
- Education too academically oriented.
- Slow in tackling problems of managerial obsolescence.
- Away from ground realities of Indian business scenario.
- Drain on technical manpower.
- Do not foster entrepreneurship.

Findings
Regarding MBAs :

Strengths :

- Ready to accept responsibility
- Have long term perspective
- Are good team players
- Clear about career goals
- Have divergent thinking
- Have excellent analytical and quantitative skills
- Capable of adapting to different situations.

Findings
Regarding MBAs

Weaknesses :

- Frequent job hoppers.
- Reluctant to work on the shop-floor
- Lesser concern for ethical issues.
- Revel in jargon, rather than concepts.
- Look for shortcuts and formulae.
- Are over ambitious.
- Have preconceived notions about themselves and their jobs.

Discussion :

The finding of this pilot study were presented (by the group of students who carried it out) at the interaction session, between Chief Executive Officers (CEOs) of various organisation's and Directors of fourteen Management Schools (of University of Mumbai), which was held to strengthen the 'Industry Academics Linkage'.

The theme which clearly emerged in this interaction session is that if management education has to fulfill its objectives the continuous feedback in terms of industry expectations has to be taken into account and the innovative strategies worked out. Basically the strategy which emerges is "Academic Re-engineering" of the Management Programmes.

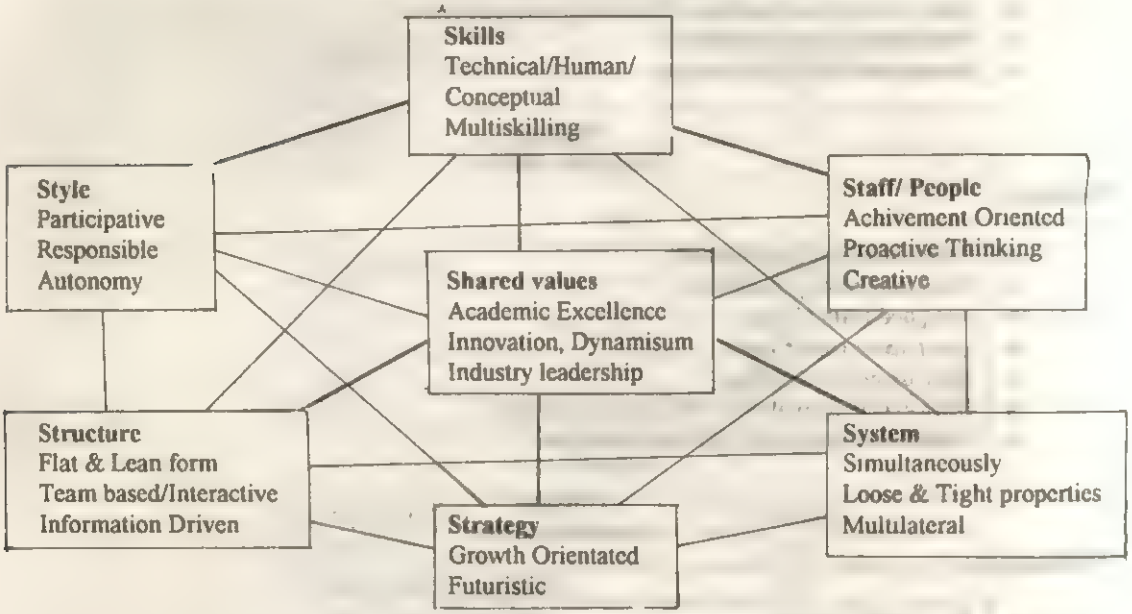
Academic re-engineering strategy for management education, to be fruitful, has to be based on a conceptual model. Hence in Part II an attempt is made to conceptualise the Management education in the emerging era using Mckinsey's 7 S model. This will further strengthen the Academic re-engineering strategies.

Part II

The perspectives which emerged in Part I are used to evolve the characteristics of Management Education in the emerging era. The Mckinsey's 7 S Model is used in this characterisation. (Fig.II)

It is believed that using this Model will help to arrive at strategies which will help Management Education hold its own in the era of competition and globalisation.

A Synoptic View of Management Education in the Emerging Era using Mckinsey's 7 S Model.



Synergistic Force :- Leadership & Excellence through Innovation

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Restructuring the Higher Management Education for the 21st Century

S. Chandra[1]

This paper is an attempt to build up some conceptions about the objectives of education and to discuss the challenges of globalization in the 21st Century. The paper is divided into three parts:

Part I	:	What is the purpose of education?
Part II	:	The second part deals with the problems faced by developing countries and new challenges emerging in 21st Century.
Part III	:	The third part raises some issues on educational reconstruction for Human Excellence

What is the Purpose of Education?

*A great leader and philosopher, **Mahatma Gandhi** proposed the concept of Basic Education, which was designed to rescue education from its bookish and purely verbal content. He emphasized that all school subjects must be taught in correlation with some manual productive craft.*

***Rabindrar Nath Tagore** believed "nature to be the greatest of all educators and aimed at developing the child into a whole man. He emphasized the importance of education in the growth of a balanced and well integrated personality".*

Education—A Process of Discovery

Education etymologically means the drawing out of inner capacities and perfections so that, in the words of Herbert Spencer, "man should be able to be most useful to himself, his family and community". Knowledge is inherent in man, no knowledge comes from outside; it is all inside, what humanity says a man 'knows' should, in strict psychological language, be what he 'discovers' or "unveils"; what a man "learns" is really what he "discovers" by taking the cover off his own soul, which is a mine of infinite knowledge (Swami Vivekananda). All knowledge that humanity has received comes from the mind, the infinite library of the universe is the mind. The external world only provides the information. There are three main components of knowledge:

(i) Information—(Suchna)
(ii) Education—(Shiksha)
(iii) Knowledge—(Gyan)

Education is a process of self discovery and a process of transformation from darkness to light. The man from whom this evil of ignorance (agyan-darkness) is being lifted is certainly more knowing man.

Dr. S. Radhakrishnan's observation on education should attract the attention. He said "Any satisfactory system of education should aim at balanced growth of individual. It should not only train his intellect but also bring grace into the heart of man filling him with compassion for suffering humanity and unless that is achieved, education must be regarded as incomplete".

In the words of Dewey, "the process of education is a continuous process of adjustment having as its aim at every stage an added capacity of growth. The whole process of growth and development which is caused by learning from experience is called education".

***Aurobindo Ghosh** believed that knowledge is the seed of education. It is the duty of the teacher to show where true knowledge is and how that knowledge can come to the surface. Education must be*

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provided according to the individuals' needs. So flexibility, innovation and initiative are extremely essential for natural growth and education of the child.

Problems Faced by Developing Countries

Education is seen as the key to industrial development, national cohesion, personal development, moral formation and character building, cultural preservation and the creation and maintenance of interpersonal relationship. Education lays the nation's foundation in every country in the world. No education system is more important to the economic development of a country than a technical education, yet it is so disparate and poorly planned and managed in our contemporary world.

Nowhere are the problems more acute than in the developing countries where the resources are scarce, the gap between the life style of the poor and rich is enormous, and where people face a lot of hardship and economic problems. The developing countries in the third world are facing a number of problems depending upon social, cultural and economic factors. The most common are economic problems such as:

- Low per capita income
- Large scale of unemployment and underemployment
- High rate of population growth
- Lack of understanding and cooperation between industrial and technical institutions.

Challenges for Management in the 21st Century

We are moving towards the 21st Century as we are approaching the end of the 20th Century. The major challenges for management in the 21st Century are:

- Challenges of Globalisation.
- Challenges of Technological Revolution.
- Challenges of Information Technology Revolution.
- Challenges of Change.
- Management of Challenges.

We have to face these challenges and the managers should be prepared to accept the challenges which are going to play a dominant role in the modern and dynamic world economy of the 21st Century.

Global competition, economics, liberalization, cultural change, rapid change in technological processes information technological revolution, population explosion, erosion of human values and determination of quality of life; are the determining factors for restructuring the higher management education. The future shape of education in India is too complex to envisage with precision.

The universalisalization of higher education gives rise to the problem of ensuring excellence even with significant improvements in physical conditions, curricula and teaching methods; it is still an uphill struggle which was easier to attain when higher education was limited to selected groups.

Pressing Problems

What kind of restructuring is required in the present context of globalisation? Why is restructuring necessary? Who will take the lead to initiate the process of restructuring. There are many issues which needs urgent attention because of the following pressing problems in the present education system:

- Degradation of quality products.
- Lack of motivation in students.
- Lack of motivation by teachers.
- Low level commitment in teachers.

* Lack of motivation by administrators, managers and higher authorities.
* Low concern for excellence.
* Lack of interaction between students and teachers, and
* Erosion of basic values.

Restructuring of process must consider the goals and objectives of education, value education and commitment for basic values.

Need for Restructuring

There is a great need for restructuring a higher education to ensure the cultivation of social and moral values as well as to face the challenges of 21st Century.

The educational restructuring of the desired attributes of an educated person, defined in view of new challenges of the twenty-first century, are expected to be achieved. Such a person would be a person of self-reliance, a person of creative ability, and a person of moral principle.

The present system should undergo structural changes, including reforms in the school system, establishment of continuing education programmes, expansion of vocational education, establishment of multipurpose schools, and the expansion of non formal education.

Educational development should mean constant improvements in the ability of the educational system to effectively respond to changes from within and without the relation of education. The education system is not an end product but a process which is subject to change in response to new demands. Changes in educational system should be guided by an unending stream of research and development.

The higher education (technical and management) must aim to provide self realization. This means that education will provide individuals with opportunities to develop their potential to the fullest. In all educational undertakings and houses, learning should be motivated by the drive to achieve self-fulfilment.

Strategies for Restructuring

The following points must be considered for formulating the strategies for restructuring the higher education.

1. Higher consciousness of the Goal of Education.
2. More Flexible Educational System.
3. Primary Education of Higher Quality.
4. Quality and Excellence in Higher Education.
5. Vocational Education for Greater Employability.
6. Institutional and Industrial Linkage.
7. Personal profile of teachers and Teachers' Educators.

Steps for Restructuring

Step 1: Redefining Education:

According to the Indian perception, "Education is essentially for all", and is fundamental to the all round development of the individual, both material and spiritual.

Education plays an acculturating role in furthering the goals of socialism, secularism, and democracy, as enshrined in the Indian Constitution. Education develops man power for the economy; research and development, the ultimate guarantee of national self-reliance flourishes on it.

As we approach the 21st Century, better education is needed to make human resource development responsive to the challenges of the coming decades and the unprecedented opportunities of the future.

Step 2: Reorganisation of Education

The National Policy on Education, 1986 recognized the importance of reorganization of education at different stages, i.e. early childhood care and education, secondary education, vocational education, higher education, technical education, management education as well as open university and distance learning.

The new policy emphasizes the close relationship between technical and management education. It contains many specific measures such as the strengthening of the technical manpower information system, multipoint entry to technical and management education programmes, the design and introduction of formal and nonformal technical education programmes for women, the introduction of programmes to prepare large number of teachers and professionals in various fields to promote self employment as a career option, and the updating of the curriculum by phasing out obsolescence and introducing new technologies and disciplines.

Step 3 : Reorienting of Higher Education

The NEP (New Education Policy) also realizes the need of reorienting the contents and process of education; it is believed that education can and must bring about the fine synthesis between change oriented modern technologies and continuity of the countries' ancient and rich cultureal tradition. The curricula and process of education will be enriched by cultural contents instilling and developing a sense of beauty, harmony and refinement in children.

Step 4 : Restructuring the Higher Education

The final stage is restructuring higher education to attain the objective of education and to become a good citizen.

The policy also stresses the need for restructuring or readjustment in the curriculum to ensure cultivation of social and moral values and the elimination of obscurnatism and religious fanaticism, violence, superstitions and fatalism. Primary emphasis is placed on fostering universal and external value in culture plural society based on Indian heritage.

Goals and Objectives of Education

Keeping in view the challenges of globalization and liberalization, cultural changes and technology changes the future shape of education in India is too complex to be envisaged with precision. However, it is expected that the twenty first century Indian Education will serve the following goals:

1. Accelerate the development of middle and higher level manpower development toward economic recovery and sustainable growth.
2. Ensure a better quality of life (Total Quality of Life).
3. Act as a catalyst for socio-economic transformation by removing the existing socio-economic imbalances
4. Develop and inculcate values needed in social transformation (to build character and develop leadership qualities).
5. Remove illiteracy and ensure alleviation of poverty, promotion of equity and social justice and attainment of sustainable growth and development.
6. Meet the challenges of the future society.

Restructuring Model

Experimentation Model for "Future Education"

The suggested 'EXPERIMENTATION' Model for Future Education is based on the following guiding factors to achieve the objectives of education for the 21st Century.

E. Education and Manpower Development
X. Excellence in Higher Education
P. Promotion of Entrepreneurial Education and Training
E. Educational Process Improvement
R. Revision of curriculum, textbooks and learning aids
I. Innovation in Education Process
M. Motivation in Education Process
E. Evaluation in Education Process
N. New Teaching Methods
T. Teaching Techniques Improvement
A. Adoption of TQM in Education
T. Teachers' and Educators' Profile Improvement
I. Intensification of Educational Values
O. Operational linkages with Institutes and Industries
N. National cohesion.

Restructuring Model for Future Education

The following steps are suggested for restructuring for future education:

I. **Education and Manpower Development**
Education develops manpower for economy, research and development; the ultimate guarantees of national self-reliance flourish on it. In short, education is a unique investment now and in the future.

II. **Excellence in Higher Education**
Improvement in the internal efficiency of the education system and enhancement of the quality of the output of its training programmes.

III. **Promotion of Entrepreneurial Education and Training**
Emphasis should be given to the entrepreneurial programmes with an agricultural and rural orientation, consistent with the thrust of employment generation and rural based development.

IV. **Educational Process Improvement**
The educational process at college/university levels should be restructured so that education can serve as an instrument of empowerment for the weaker sections of Indian society.

V. **Revision of Curriculum and Learning Aids**
Keeping in view the rapidly changing technology and market forces, there is need to design the curricular frame work to meet the challenges of 21st century.

VI. **Innovation in Education Process**
The process of learning should be participative, cooperative, independent and autonomous. There is need for research and development at the university level which should be focused on greater employability keeping in view the globalization and privatization of Indian economy.

VII. **Motivation in Education Process**
Keeping in view the overall deterioration in the educational standards' mainly due to the lack of motivation of the teachers as well as students, there is a greater need to adopt new teaching

techniques and revised curriculum so that the teachers' and students' community can be motivated and involved jointly in nation building activities.

VIII. **Evaluation in Education Process**

There is need for continuous evaluation of learning and teaching to ensure that knowledge and new skills have been inculcated in the students to cope with the future challenges.

IX. **New Teaching Methods**

Thinking and learning should be adopted to replace listening and examination. There is aneed for encouraging active participation of students in the teaching and learning process.

X. **Teaching Techniques Improvement**

New teaching techniques need to be adopted to make the learning process lively, and illustrative. To achieve the objective of social transformation, teachers must adopt new innovative techniques and strategies of group discussion, brain storming, workshop, quiz, think test, simulation, role playing, etc.

XI. **Adoption of TQM (Total Quality Management) in Education**

Keeping in view the falling standards of educational systems and the erosion of values, a greater emphasis is to be given to the adoption of TQM in education. There should be continuous improvement of the system which must meet the needs and expectation of the society.

XII. **Teachers and Educators Profile Improvement**

The teacher has a vital role to play in shaping the character of students and the focal point of social transformation. There is a great need for in-service training of teachers, trainers and other school administrators to improve their teaching and training capabilities.

XIII. **Intensification of Educational Values**

A harmonious blend of higher education and value systems must be made to achieve the objective of value based education system. The development of Indian citizens (and world citizens) infused with love for God and Country, respect for human rights, love for truth, freedom, justice and democracyare necessary. An emphasis on work ethics, productivity, professionalism, quality, discipline and self reliance to enable individuals to adopt to a modernized society is also essential.

XIV. **Operational Linkage with Institutions and Industries**

There should be greater interaction and operational linkage between institutes and industries to make the education system an agent of change to fulfil the growing demands of globalisation and liberalisation. The concept of sponsorship by the industries should be encouraged by universities and professional institutions.

XV. **National Cohesion**

Education needs to be managed in an atmosphere of intellectual vigour, seriousness of purpose and freedom to innovate and create. The curricula and education process must be balanced to provide a national cohesion, proper growth of body, mind and spirit so that they could develop into an integrated, wholesome personality. Primary emphasis should be placed on fostering universal and internal values in a culturally plural society, based on the Indian heritage, national goals and universal perceptions.

The management of higher, technical and management institutions in India has so far lacked emphasis on quality of the system or monitoring of its productivity. The education commission (1964-66) could not but give the impression that the scenario of higher education was note too satisfactory because of falling standards. Has the situation changed today for the better? Today, we are living in the world of global competition. India is facing competition from Foreign Universities. There are several American and Australian Universities which are offering their programmes in India.

The problems in management and administration of higher and management education, include lack of motivation by administrators and teachers, petty power politics, lack lustre performance by teachers, irrelevant curriculum, dubious evaluation and examination system and above all, erosion of ethical and spiritual values.

The National Policy in Education, 1986 set the new agenda of action for the country's management education. It includes many areas of governance and organization of management programmes. They include thrust areas, generation of funds, flexible entry for admission, accreditation and such others.

The management of education is a subject of high priority and the policy stipulates a number of considerations, such as the long term planning and management perspective, decentralization and autonomy, non-governmental agencies and voluntary effort, the role of women and the principle of accountability.

The future shape of education in India is too complex to envisage with precision; it is expected that the new policy will achieve the objective of future nation-wide efforts in human resources development with education playing a multi-faceted role.

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Valueing Values : The Need for the Youth

Anita Shetty, and
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Introduction

Education is a sub-system of the wider social system. Although it has a separate identity and upto a limited degree, functions autonomously, it has linkages with the economic, political, religious and other sub-systems which exert powerful influence on the goals of the educational sub-system. Education can rarely free itself from social and cultural norms and has to relate itself to the needs of the society. It has to deal with something of a paradox, on the one hand it has to transmit the cultural heritage and tradition and on the other hand function as a prime mover of change. The educational sub-system is not the only agency offering education. To begin with, the domestic group, the neighbourhood and the peer group have important education roles and the educational process continues beyond the formal school stage through books, mass-media, cultural, political and religious inter- course and inter-personal contacts of a wide variety. The formal education system has to take into account the early socialisation and has to anticipate future educational processes.

Can education, a sub-system of the macro society, effectively influence the mass society?

Importance of Value Education

One of the challenges of the modern teacher, is how to make value education effective and interesting to the modern youth. Present day curriculum is full of content of techno - informative data, consisting of facts, figures, theories and laws etc. The present day youth with its potential and good will to learn, concentrates on learning only the academic subjects. This poses a challenge to those concerned with the all round development of the pupil through education.

The teacher and the taught represent the two most significant components of the educational sub-system. Over the decades the class base of both has changed. Second and first generation learners are now flooding the institutions of learning. They bring a variety of problems which the existing pedagogy cannot cope with. The teachers, in increasing numbers, are drawn from groups which do not have a tradition of literacy and learning. The social background and cultural orientations of the learners and their instructors pose a new set of problems to the educational process.

With all the complexities of life society and education, the question rising in our minds is - `Are we educating for life, for reality or merely for awards of marks and certificates?

Our present day education provides little scope for organised and regular reflection and even less for experimental learning. Education should prove the way for enhanced awareness, greater openness and ability and courage to question and toughness to search for solutions. Education, as an instrument of development, must, therefore be also a truely freeing experience, a process of liberation. In our Indian context, "liberation from the numerous prejudices, based on caste, gender, religious, region, language etc., from prejudices based on superstitious beliefs, from a variety of unfounded fears and positively, freedom to explore, to investigate, freedom to accept truth, even when it goes against ones earlier notions and beliefs.

"True education must humanise the person"

Education, in other words, must initiate a life-long process of developmental exploration, within its two dimensions, one of the self and the second of the community and the wider society. This emphasises the need for value education.

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What is a "Value"?

"Value is a conception, explicit or implicit, distinctive of an individual or characteristics which influences the selection, from available modes and ends of action - Wuchohn (1957). Rokeach (1973) defines "Values as an enduring belief, a specific mode of conduct or end state existence along a continuum of relative importance".

Values may be described as a system of personality traits which are in harmony with the inner nature of an individual and which are in accordance with the values approved by the society. The process of valuing is what we go through when we make judgement about things, events and people that we encounter in our day to day life.

There is a widespread feeling among a cross section of the people in India today that, all is not well with our body politic and that education must contribute actively and positively to find a part of the solution. The growing malaise in modern education is that it is seen and practiced merely or mainly as a means of acquiring techno-informative knowledge and skills, with little or no anchoring in cultural roots of the country and its perspectives. Unless `education helps the students to develop not only a personal identity (which essentially means a set of value perspectives and world views, linked to ones cultural traditions) education cannot be said to have fulfilled its essential role.

Leaders, not only in the field of education but also in other fields have tried to enhance the quality of life. Various kinds of remedies have been applied or tried but, of late, it has become, the united voice of all that Moral, Social and Human values are the ultimate and the much - needed remedy.

Opinion of the People from Various Fields on Degradation of Values among the Youth

Leaders from social service field say that there is poverty, widespread illiteracy, sickness dirt and destitution, so much so that one feels shame to see the dehumanising conditions and the subhuman existence of the masses. They say that children are becoming addicts to T.V. culture, to computers with the result that they are acquiring many new kinds of ailments, attitudes and habits and many are losing even independent thinking. They assert that the new situation, created by large scale urbanisation, mechanisation, also needs to be tackled at the level of values because these new trends, new features and new factors have created a new culture and have influenced the attitudes, the judgement and the set of values of the people. Social service leaders emphasise that what is really required to wipe off the disgrace of poverty is social, economic and political justice and change in the attitude and life style of the top-rich. Attitude of sharing and co-operation must be inculcated.

Parents

The dreaded menance that is hounding large number of homes is the drug abuse and the alcoholism. Inspite of hard efforts of the parents, government, the medical profession and the social reformers, the addiction to intoxicating drugs or narcotics is gaining epidemic proportions. At many places educational institutions are becoming the contact places for drug sales. The parents are worried about their children getting into the trap of the drug agents or about their falling into the company of such `friends' who are drug addicts or alcoholics, or eve-teasers. Parents say that their children and the youth require such teachings and atmosphere that should develop in them the qualities of self-control, discipline, sense of responsibility for their life and the values of simplicity, habit of hard work, will to learn and such other values which generate inner strength and happiness in them.

Doctors or Health Scientists

Doctors say that there is clear medical evidence that there is lot of mental tension, negative attitudes, impulsiveness and lack of the ability to have emotional stability and to solve the inner and outer conflicts. As a result, more and more people are suffering from psychosomatic diseases like high blood pressure, heart diseases, arthritis, peptic celcers, asthma and even cancer. They also warn about the danger of AIDS, use of tobacco and alcohol. Doctors say that mental tension is due to lack of such values as Tolerance, Self-control, Emotional stability, etc.

Educationists, Educators and Students

Those who formulate policy on Education and also those who teach say that the atmosphere in schools and colleges has undergone a sea change. One major problem is the indiscipline and rowdyism. During the examinations, one notices the mal-practice of mass-copying. Even the parents help in this evil. There is also the evil of tampering with the results, either by the examiner or in the office where the results are complied and records are maintained. On any pretext, the students gather into a mob, threaten their teachers, destroy the school property. There is the ugly practice of ragging and absentism. Majority of the students do not have any regard for the teachers and they are giving up the traditional values and following the new T.V. and film culture.

The students say that their teachers themselves also are not inspiring personalities because they too do not have such values in their own life. They say that the teachers do not perform their jobs with any dedication, responsibility or for the love of education. They want to earn money by giving tuition outside the school. The students, therefore emphasise that if their teachers, syllabus and the atmosphere lack in the essential ingredients that make the culture or the value system, how can they be blamed for any lapses? They also say that the atmosphere at home is not congenial and the parents themselves too often speak lies, indulge in acts of anger, hatred, vengence, enemity. They pray that the society should do something so that the parents are more loving, friendly, caring and trusting.

Need for Value Based Education for the Betterment of Youth

Youth, who are physically well-built, healthy, energetic and efficient, mentally well-developed, thoughtful, knowledgeable and innovative, psychologically enthusiastic and zestful, emotionally balanced, morally upright and strong and spiritually awakened to the transcendental realities, can lead a nation to the Golden Age. If youth of a country are of high character and creative, then all the people will have a sound character and be of constructive habits because small children will find in the youth a worthy example to follow and the elders will be goaded by the conscience to give up their lethargy and negative traits to make all efforts not lag behind the youth who are only new entrants to the game of life.

The adolescents and the youth are idealistic and dreamers. The energy in them assures them that, in a short span of time, they will attain some goal or the other, but they find that lack of power of mental concentration, or non-congenial atmosphere at home and at their place of study are great obstacles which frustrate them. So, out of frustration they become only ordinary citizens or some of them fall into the deep and dirty ditch of the vagabonds, they take to drugs, bad films and such other disorienting and degrading habits.

It has been found that, during adolescence, most of the boys and girls have high ideals and have a strong voice of clear conscience, that constantly asks them to keep away from bad things, but when they see their elders telling lies, earning by dishonest means and doing all sorts of negative activities and yet justifying their bad actions by asserting that life cannot be sustained without such actions, than they get confused, corrupted and compelled to adopt bad ways of life.

So it is the duty of the elders to guard against all such roles or saying and doing such things as it spoils the adolescents and the youth. It is the duty of the society to arrange not only for their secular education but also for such moral spiritual education, which gives them the power to develop, the power of concentration of mind and the strength of character that can ward off the temptations to which the youth fall an easy prey.

Conclusion

There is a sincere appeal from teachers, parents, social workers and medical practitioners, to the educationists, that education be value based. They have been pressing over and again that there is need to give grounding to the children and the youth in such values as simplicity, obedience, respect for elders, responsibility, discipline and honesty. The parent, the teacher, the planner, the student and the society cannot be segregated. The parents cannot forget their responsibility and put all burden and blame on the teacher or the school, nor, for the same reason, can the teacher shirk his responsibility? It is not possible to change people over night. There will be people in the society with provocative traits. What we can do

is to train the youth in such arts or ways that can maintain in them a constant supply of peace and calmness and can strengthen their will not to give into anyone of these bad tendencies.

Since teachers perform a very commanding role in every ones life, we can would the youth in a better way. Some of the values which we could highlight in our day to day transactions could be :

- Humility
- Honesty and integrity
- Self-respect and regards
- Respect for others
- Concern for the well being of all, Sympathy and Service
- Purity and cleanliness
- Peace, tolerance and non-violence
- Dignity of the human individual
- Goodwill for all
- Contentment.

The classroom sends message to the young people, messages of love, safety, security, belonginess, warmth, messages which says that this is the place where the individual is respected and trusted. Let us provide opportunities to our young ones "to learn, live and flourish" in our classrooms like perfect human beings.

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Importance of Teaching Children Values

S. Chona[1]

What do we owe a child?
Sustenance and shelter ..... roof and raiment.
What else?
A chance ! The best chance we can give to begin and to become.
A chance to get past rock and reef into the channel and
direction and control to survive the current.

What children need is a set of carefully crafted,
somewhat magical touchstones
which, in youth, transform into moorings,
giving first the security of place
and then giving growing vessels
a chance to be built strong in still water.

Later the touchstones transform again
into paddle, rudder, and stern,
allowing fresh, new pilots to negotiate and navigate
the incredible currents of adult life.

The magic touchstones that children need,
and that teachers and parents owe,
are values-
values that hold us, secure us, guide us.

"But," come the echoes of folly and abdication,
"We shouldn't impose our values on children. ...and anyway,
people can only learn by experience, by trial and error,
each person must discover his own values."

As foolish this, as to say, "Calculus must be rediscovered
independently by each.

Forcing a child to rediscover the wheel of values
is withholding a lifeline
to a craft stripped of rudder and stern,
drastically increasing the chance of drowning.

Philosophy of teaching children values

Let's take a quick look at some questions?
Why should we teach moral values to children?

Because our parents tried to teach them to us?
Because they are traditional?
Because they are what makes our society safe and workable?
Because we believe in them?

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Because they are right?

Because studies show that morality and value-oriented behaviour helps a child develop a sense of autonomy, independence, and confidence?

Perhaps all of these are good answers. Certainly at least some of them are correct for each of us. But there is a better reason.....a universal one.....a reason that undergrids and overarches all the rest.

We should teach values to our children because it is the most significant and effective thing we can do for their happiness as educationists and parents.

The wisdom of the ages as well as of our own experience teaches us that individual and collective happiness is connected to (if not the direct product of) behaviour that is governed by **moral values**. It is no coincidence that the sages and seers of different cultures and countries have taught the same basic values. The historical correlation between a morality and the decline of Rome corresponds to the personal connections we have all observed in people who seem to lose their principles and their peace of mind at the same time.

One way that our children could learn this connection between living according to values and their personal happiness is by trial and error. The failure and unhappiness that immoral behaviour brings could cause them to change, teaching morality and developing values through the hard school of painful experience. But any one person's lifetime is not long enough to "rediscover the wheel" - to sort out all of the connections between values and happiness. Therefore our duty as teachers and parents is to pass along what we have learnt, to teach our children both the values and the connections.

Ralph Waldo Emerson said it best:

> Cause and effect are two sides of one fact. Every secret is told, every crime is punished, every virtue is rewarded, every wrong is redressed, in silence and certainty.....cause and effect, means and ends, seed and fruit, cannot be served; for the effect already blooms in the cause, the end pre-exists in the means, the fruit is in the seed.

The fruit of fulfilment and basic happiness is in the seed of clear, strong moral values.

Why should we teach values to our children?
Because their happiness depends on it!

The "permissive parenting" of the modern times has produced a generation of young adults who have broken all records for drug abuse, family instability, suicide, and (though it is less quantifiable) unhappiness.

The idea of avoiding the teaching of moral values until children are "old enough to choose their own value system" is indeed a catastrophic mistake approach. It is analogous to setting a tiny, powerless vessel down in the midst of turbulent, destructive currents and hoping that by some chance it will wash into a safe harbour.

With or without teachers and parents' help; children will begin developing both conscious and subconscious values during their preschool years. They learn them partly from their friends, partly from television, but mostly from their family. They test and develop and sometimes alter these values as they enter school. As they approach adolescence and teens, they struggle for autonomy and begin to set up their own value system, which is independent of (but not usually very different from) that of the two institutions, family and school.

If their parents avoid educating them regarding values, they'll learn - primarily - that values aren't important. The personal-value-developing process works better when parents and teachers focus on values and consciously try to help, teach, and set examples all along the way. Their children will still develop their own values - but they will do so because their parents and teachers showed them that it was an important part of their development at home and in the schools.

This paper presents a positive program for teachers and parents - a proactive approach that we call teaching by objectives rather than a defensive strategy of reacting to our children. Importance of teaching children values provides ideas and methods that can assist in focusing on one clear objective each month. Parents and schools focusing on a specific value each month will find themselves teaching it to children in all kinds of ways, both consciously and subconsciously.

Are there such things as universal values? Is there such a thing as unconditional, unchanging, nondenominational morality? Are there certain standards of though and behaviour that are inherently right and that can be unequivocally accepted as good, or at least as "better" than their opposites or alternatives?

Definition

A true and universally acceptable "value" is one that produces behaviour that is beneficial both to the practitioner and to those on whom it is practiced. It is a principle that either accomplishes well-being or prevents harm (or does both). It is something that helps or something that prevents hurt.

Each of the twelve values briefly described in the table of contents meets this definition.

Criteria

Apply to the term values further criteria that separate them from various skills, attributes, or characteristics that may also be beneficial. The differentiation is this : A value is a quality distinguished by : (a) its ability to multiply and increase in our possession even as it is given away; and (b) the fact that the more it is given to others, the more it will be returned by others and received by ourselves.

To illustrate: Honesty is defined as a value because it benefits both the practioner and the person on whom it is practiced. So is love, so is kindness, so is justice, and so on. These qualities also pass the criteria for values because even as we give them, we have more of them left, and because the more of them we give, the more of them will come back into our lives from others.

For our purposes, then, personality traits such as ambition, mathematical genius, physical beauty, wealth, or goal-setting ability, while they may be positive characteristics, useful skills, fortunate circumstances, or pleasing traits, are not universal values. Ambition and goals benefit only the individual-they do not always benefit those they are perpetrated on. Physical beauty or mathematical genius, even if they could be given, would not necessarily be given back.

Values, then, are other-and-self-benefitting qualities that are given as they are gained and gained as they are given.

Have another look through the twelve values listed and briefly defined. See if you think they fit the definition and the criteria. More importantly, see if they fit your feelings about what you want to give and teach to your children.

So much of life, in today's world, has to do with getting, Value, in contrast, have to do with being and with giving. It is who we are and what we give rather than what we have that makes up our truest inner selves. And it is what we are and what we give of ourselves to our children that will, more than any other force or factor, determine what their values are and influence who they will be and what they will give.

Of the twelve values I have selected, half have been called values of being because they begin with the development of a quality or an attitude within ourselves that determines how we behave and how we treat others. The other half are called values of giving because they originate as gifts to others and then go on to influence who we are.

But do not carry the distinction of the two categories too far. They meet, overlap, and blend. The value of being (honesty, courage, peaceability, self-reliance, discipline, and fidelity) are given as they are gained-practiced on the "outer" as they are developed in the "inner". And the values of giving (respect, love, loyalty, unselfishness, kindness, and mercy) are gained as they are given and developed as they are practiced.

The purpose of the distinction and the division is only to fix a starting point. We start to develop discipline or self- reliance or peaceability by practicing it on ourselves and within ourselves. We start to develop love or sensitivity or mercy by practicing it on (and giving it to) others. But the giving and

receiving, the growing and contributing, quickly blur and merge. We soon practice love and respect on ourselves and build it within us; and we soon give discipline or peaceability to others through our commitment and example.

A diagram can help show the starting points and the flow:

Values of Being (who we are)	**Values of Giving** (what we give)
Honesty	
Courage	
Peaceability	
Self-reliance, Potential	
Discipline, Modernation	
Fidelity, Chastity	
	Loyalty, Responsibility
	Respect
	Love
	Unselfishness, Sensitivity
	Kindness, Friendliness
	Justice, Mercy

Each value starts in an attitude of being or an action of giving, then becomes an action as well as an attitude - or, a quality as well as a gift. And then the gaining and the giving feed and build on each other, each catalyzing and energizing and nurturing the other.

The secret that the diagram reveals is that the two great methods for teaching all twelve values are being and giving.

Being and giving are not only the test of our values but the means by which we teach and transmit them to others, particularly to our children.

As just mentioned, the supreme method for teaching values to children are the examples of our own being and our own giving.

Example is always the best teacher-and what we do always overwhelm and overshadow and out-teach what we say.

A friend of ours told us of a day when she got so upset with two small preschoolers fighting over a doll that she grabbed the doll and threw it out of the window. She then lectured the little children on sharing and on not fighting and was sure when she had fined them that she had taught them something.

Later that day she found the children throwing loaves of bread out of the window. Children will always learn more from what they see us do than from what they hear us say.

While example is the prime teacher close behind (and closely interrelated) are the methods of storytelling, games, role- playing and imagination.

Remember, though, that some of the best methods are the ones we do think of on the spur of the moment when the need arises. And one thing that helps us think is to have a clear goal. We all think better when we have a purpose..... like the specific objective of teaching one separate and individual value to our children each month.

Focus on one value at a time, one for each month of the year. When you finish the series of twelve, start over again- your children will be a year older the next time through and will be ready to learn each value at a different level.

The following methods can be adopted to teach these values:

* "Scenarios" and various kinds of verbal games are helpful because they allow children to actually put themselves in situations and "see" the consequences and the cause-and-effect ramifications of various choices or behaviour.
* Concept discussions, where children talk about the terms and concepts of morality (on their own level) with parents and teachers helping them developing both their own interest and their own ability to "really talk" with a grown-up. Studies have shown that there are direct relationships between the moral behaviour of children and the amount of time spent just talking with parents. Our own values are steadily and gradually communicated to children as we interact.
* Praise and reinforcement is the one method with the power to turn moral behaviour into consistent, conscious habit. The Duke of Wellington, near the end of his life, was asked what one thing he would change if he could live his life over again. "I would give more praise" was his reply. Pointing out failure doesn't change things - it produces guilt and perpetuates the status quo. Real change comes through catching children doing something good and then praising and reinforcing the behaviour.
* Reward, awards and any other form of recognition coupled with praise is a powerful way of promoting moral behaviour. In addition to various types of rewards, specific awards (plagues that recognize special effort at a particular value during a given week) can be both a lively discussion point and a motivating compliment.
* "Second chance" and "Let's start over" approaches by teachers and parents can correct behaviour and remind children of moral values without the negative effects of punishment and criticism.
* Memorization of short, graphic phrases or mottos that state a particular value in a clever and memorable way is valuable in planting a good concept firmly in children's minds.
* The value and its opposite : Which helps, which hurts ? By guiding children to discover antonyms of each value, you can set up "opposite poles" and put yourself in a position to ask which one hurts people and which one helps people.
* Acknowledgement of positive behaviour, ignoring of negative behaviour. Children crave attention, and all too often parents give attention to negative behaviour and ignore positive behaviour. We tend to "leave well enough alone" and spend all our effort correcting what is wrong. We need to turn this around and, again, "catch them doing something right".

To teach each value a separate set of suggested methods for preschool, elementary, and young adolescent ages can be used. You will focus, of course, during each month, on the methods specified and appropriate for peer group.

With preschoolers the most effective methods are simple games, stories, and a geat deal of praise and reinforcement.

While elementary ages awards are particularly effective, as are memorizing, consequence games, and other verbal games that require more thought.

With young adolescents and teenagers "adult discussions," "help and hurt" dialogues, and case studies of other teenagers draw the highest interest.

These methods, separately applied for each particular value and combined with our own individual ideas, become the tools in teachers and parents hands and the know-how that can make us all into confident "value-teachers".

VALUES OF BEING

Honesty

Honesty with other individuals, with institutions, with society, with self. The inner strength and confidence that is bred by exacting truthfulness, trustworthiness, and integrity.

Courage

Daring to attempt difficult things that are good Strength not to follow the crowd, to say no and mean it and influence others by it. Being true to convictions and following good impulses even when they are unpopular or inconvenient. Boldness to be outgoing and friendly.

Peaceability

Calmness, Peacefulness, Serenity. The tendency to try to accommodate rather than argue. The understanding that differences are seldom resolved through conflict and that meanness in others is an indication of their problem or insecurity and thus of their need for your understanding. The ability to understand how others feel rather than simply reacting to them. Control of temper.

Self-Reliance and Potential

Individuality, awareness and development of gifts and uniqueness. Taking responsibility for own actions. Overcoming the tendency to blame others for difficulties. Commitment to personal excellence

Self-discipline and Moderation

Physical, mental, and financial self-discipline. Moderation in speaking, in eating, in exercising. The controlling of one's own appetites. Understanding the limits of body and mind. Avoiding the dangers of extreme, unbalanced viewpoints. The ability to balance self-descipline with spontaneity.

Fidelity and Chastity

The value and security of fidelity within marriage and of restraint and limits before marriage. The commitments that go with marriage and that should go with sex. A grasp of the long- range (and widespread) consequences that can result from sexual amorality and infidelity.

VALUES OF GIVING

Loyalty and Dependendability

Loyalty to family, to employers, to country, schools, and other organizations and institutions to which commitments are made. Support, service, contribution. Reliability and consistency in doing what you say you will do.

Respect

Respect for life, for property, for parents, for elders, for nature, and for the beliefs and rights of others. Courtesy, politeness and manners. Self-respect and the avoidance of self- criticism.

Love

Individual and personal caring that goes both beneath and beyond loyalty and respect. Love for friends, neighbours, even adversaries. And a prioritized, life long commitment of love for family.

Unselfishness and Sensitivity

Becoming more extra-centered and less self-centred. Learning to feel with and for others. Empathy, tolerance, brotherhood. Sensitivity to needs in people and situations.

Sensitivity and empathy are values of obvious importance, but they are also qualities usually associated with maturity. Can they be taught to Children?

Awareness that being kind and considerate is more admirable than being tough or strong. The tendency to understand rather than confront. Gentleness, particularly towards those who are younger or weaker. The ability to make and keep friends. Helpfulness. Cheerfulness.

Justice and Mercy

Obedience to law, fairness in work and play. An understanding of natural consequences and the law of the harvest. A grasp of mercy and forgiveness and an understanding of the futility of carrying a grudge.

Conclusion

Helping your children develop values such as honesty, self- reliance, and dependendability is as important a part of their education as teaching them to read or how to cross the street safely.

The values you teach your children are their best protection from the influences of peer pressure and the temptations of consumer culture. With their own values clearly defined, your children can make their own decisions.

Far more than ever before, teaching moral values has become a subject of deep interest, powerful concern, and enormous priority. The questions are not only how to raise children in a difficult world and what to teach them but how to balance the priority of children with the priorities of work and personal needs of parents in modern times.

Begin today, for and a better tomorrow and save this planet from degradation and destruction. Ultimately it is the morality of the man that makes him or breaks him.

Impact of Education on People

B.K. Sarma[1]

Introduction

After the British regime we have got our own constitution in 1950 Constitution is generally made for the well being of mankind as a whole. In the world, there are different countries having their own constitutions centering round the welfare of the citizens.

The constitution is a man-made device looking forward for the survival of the mankind with peace, harmony and tranquility. Therefore, the education has got a vital role to play for mankind as a whole to make the constitution and to follow the constitution in order to maintain the constitutional 'Laws'. The impact of Education on people has much more significance.

The impact of education on people means the strong effect or influence of Education on people People is the highest being of all beings of the world having thinking and reasoning power Manu + Sna = Manava, son of Manu, the sage is called Manava (Man). The man is born with some innate qualities. These qualities are sponteneous from birth and they require to be developed in their own way in the process of growth. These instincts or innate dispositions are to be properly channelised during tender age of the child through proper education so that the child may adjust socially without any discrepencies or faults not acceptable by the society at large.

Contents of the Theme

All beings of the universe are always trying to survive along with human beings The means of survival of other beings are more or less natural. But the human beings are not the same as other beings. Survival of the fittest is applicable here in relation to mankind. Fit to survive is the essential qualities of the mankind.

Learning, earning and living should be the motto of human life. Human should be humane and kind to all beings. 'If we are born, we must learn, if we can learn, we can earn and then we ought to live " Therefore, learning is essential to all. From the mother's womb the child's learning begins. The wise mother can teach her child starting from her pregnancy through her wise thinking and wise activities. After birth the child with inherited qualities and alongwith sense organs begins to learn about the outside world.

The eyes and ears are the two most sensitive organs. The child acquires knowledge of the outside world through these sense organs. The outside environment is to be therefore clean so that the learners may acquire knowledge suited to their life. The informal process of educating the children must be organised in such a manner so that the knowledge acquired by the learner may not bring the learner astray from the real path. The essentiality of making or creating the good environment is a must for informal learning of the children. The informal learning is the base of the children's future learning The process of informal learning is to be organised in proper form so that the learner's base may be strong. The creation of good environment is inevitable and the responsibility depends upon the family, society, state and the nation in order of priority. The children are generally imitative, what they look, they would follow it without thinking and reasoning. Therefore, during childhood, they should be guarded against unsocial influence of unsocial elements, events and any kind of institutions and exhibitions.

Learning is the essence of human life. Learning makes a man humane and inhumane. Animality in man is there, no doubt; but the man must be a rational animal. Man must have conscience and the beasts have not. The role of learning plays an important part in making man in the true sense of the term. There are different stages of learning, such as infancy, childhood, adolescence and adulthood. Being equipped with some informal learning the child enters into the formal process of learning where the teacher and the taught assemble and the process of give and take take place.

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In the Formal Education process, we must be very much cautious. What is education ? Education is a mental process by which the learner's body, mind and soul are developed to struggle for existence in the world without hamperaing other's co-existence, rather stretching helping hand.

Formal Education is the institutional learning. Here in this stage the children of the age group of 4 years start their learning : Upto 6 years in the pre-primary; the children study and then they enter into the Primary at the age of 6+ and study upto class VII. From Class VII, the children run upto Secondary stage and then to Higher Secondary stage and College stage.

Formal Education primarily aims at giving knowledge of literacy to all. The knowledge of reading, writing and simple arithmatic is essential to all kinds of children born to exist in the struggle of life. Through formal education we are to enable our children to cope with the world's situation. We are to make children competent to compete with the competititon of the world's nations.

The liability of giving formal education in an independent country is solely relied upon the Government. The Govt. should establish in a planned manner all the educational institutions starting from primary stage to college level. The institution should envisage the public interest and accordingly it should be established without considering any political interest. The wastage and stagnation in the field of formal education have been considered to be much more due to automatic growing of the institutions.

'Education is the Torch-bearer of the nation" is said by all. Proper education therefore must be given to all according to need, aspiration and feasibility to exist a nation on its own feet. The modern trend of educating a child in the formal stage of education is to enter into Primary school and end at University without considering child's aptitude, interest, intelligence and employment. The result of the process is mere wastage of money and time without bearing any fruit. Preparation for life to be lived is not there in the prevailing process of educating the child.

The state-wise scheme should be therefore educating the children of the state on the basis of requirement to be employed and self employed according to aptitude, interest and aspiration. Here, to check the loss of human resource, systematic process of Intelligence Test is necessary at the age of 11-12 years, for the children. IQ is to be determined and those who have average IQ. or more, they should be sent to general line of education to be employed by the state in different jobs. Those who have got special interest in different spheres they may be employed according to their achievement in the interest of the state or the nation in order of preference.

Those who have got below average IQ they should not be allowed to go in the general line. They should be trained up in the prevocational institution to be self employed. The area of vocation is to be specified according to the need and feasibility of the vocation. The particular scheme is to be introduced by the Govt. concerned in this respect.

University degree does not only mean highly educated. The general idea of our people leads them to inferiority complex, conversely the highly educated people leads them to superiority complex. Now, question is this that who are actually learned educated? One may be educated having University degree, but he may not be learned. Learning vocation or taking any technical education who is self employed or employed and leads his life honestly and sincerely depending upon himself is called the learned educated. The particular man has followed the principle of "Learning, earning and living" and he is the independent man of the Independent country. He has learnt, he has earned and lives without depending on others. Those educated persons who have done wrong to the nation, they are not learned educated and they are not independent.

To make a good citizen of an independent nation, the educational scheme must be re-organised making provision for producing 'Wholeman'. The wholeman means generally that man who is developed physically, mentally, morally and spiritually and who becomes learned educated in the true sense. A man may not be educated but learned being ripe with wisdom and knowledge. Man may acquire much knowledge without wisdom.

The education should be imparted to children to acquire both knowledge and wisdom. Absence of one and presence of another is meaningless in the eyes of real education.

'A ship without a rudder drifting aimlessly in the vast ocean' is an important expression in relation to a man's life. A life without knowledge and wisdom is alike. Children must be educated to make eligible for earning. Earning not by dishonest means but by honest means based on labour according to knowledge, capability and experience. To earn for livelihood, everybody must do any kind of labour. The

output of labour is earning. Therefore, the dignity of labour should be taught to every child in course of his or her learning.

Living or surviving is a disposition which is innate to every being. Being the highest being, man always tries to live happily. Happiness is to be based on earnings. Where happiness is accompanied by luxury, the more earnings are necessary and those who cannot earn more according to his feasibility or efficiency, they take recourse to corruption for enjoying that sort of happiness. The children should be taught about happy living and about artificial living through corruption.

We, the people of India, living under the Indian sky should aspire coherently to live under the common sky with peace and happiness, preserving fraternity, law and order situation for the welfare of the nation as a whole. This sentiment must be developed among the learners through properly planned education. National integration is a must in order to exist as a nation. The causes of disintegration must not be there to exist in the family of nations. The proper implementation and unbiased execution of the present constitution and amended constitution if necessary will ensure the welfare of the nation.

Our world is one of the members of the solar family. The globe is a miniature of the world This globe exhibits before us about the continents, sub-continents, hills, mountains, oceans, seas and dales that are contained by the world. Our India is a sub-continent existing in the world. The limitation of the globe is the limitation of the world. Beyond this limitation we have nothing except the sky.

In the world of ours, there are different kinds of beings including human beings. Beings are living in the world under some instinctive control to maintain their existence. Apart from human being all other beings are living under the natural law. Some of their habitation may be in the water, in the hills or in the mountain, in the earth. But the habitation of mankind must be in the society having artifically made dwelling place. Provision for food and shelter are the essential requirements for mankind to live in The world is a granary of wealth, only we are to extract those wealth for the utilisation of mankind through well planned scheme of learning. Extraction of wealth is the source of income whereby we can satisfy our fundamental needs that are necessary for the survival.

Formerly, when the population was less, the cultivation was the main source of income. The method of cultivation was also of the ordinary type. The income from cultivation is to be increased according to the increased population as because the land for cultivation cannot be extended. So, the scientific method is to be applied for producing more crops on limited measure of land property to mitigate deficit budget of income from cultivation. This will only be possible through proper education of the cultivators.

The exploitation of wealth that is hidden within and outside the world is a must to enhance the income of the incumbent when the income per capita will be increased in a state or a country, the question of livelihood will no longer be a problem. The industry will surely be a major factor for increasing income. Different kinds of industries are to be implemented on the basis of natural resources available in the country. The human resources will have to be utilised in its maximum standard to minimise the unemployment problem by giving them proper training through technical education process. Enrichment of source of income and the maximum utilisation of human resources shall uplift the present position of the country. But when the question of increasing the sources of income will arise, we must consider about the global jurisdiction. Since the global jurisdiction cannot be extended as much as we please, there is certainly limitation of source of income. Therefore, there is also the limitation of income per capita. So, inevitably there must be limitation of human resources. But the human resources are increasingly increased day by day, year by year in the world at large. Birth increases, death minimises. Population control is to be followed in order to obstruct the population exploision so that the mankind as a whole may not go to the point of extinction. This is only possible, I think through proper education from the grass root level.

Along with the increase of population, the source of income naturally diminishes. The nation cannot provide as many places of income as required by the people. The unemployment grows as the years rolled by. The provision for employing the youths from inside or out side i.e. by employers or self employed according to education given or taken cannot be maintained in its strictest sense. The primary need of the people is a must and so those who have no source of income at all they take re-cource to corruption of any kind by which they satisfy their wants. Unlawful activities are being done generally by these frustrated youths.

It is to be noted that not only the unemployed youths take recourse to corruption but also many of the youths and adults are in the habit of doing corruption to have more and more money in their purse without thinking other's troubles and disadvantages.

After the independence, the India becomes a nation having its own sovereignty. An independent country must have independent policies to lead the nation to grow ahead in the competitive market of the global jurisdiction. Particularly in respect of educating the citizen of an independent country, stress should be given very carefully so that the wastage of human resources may not occur.

During the last 50 years of independence, attempt was made to review the educational development in the country by appointing different Commissions on the basis of adopted policies. In 1948, University Commission was appointed under the chairmanship of Radhakrishnan. In his report there were many vital points to be followed. He said, "If we claim to be civilised, we must develop thought for the poor and suffering, chivalrous regard and respect for woman, faith in human brotherhood regardless of race or colour, nation or religion, love of peace and freedom, abhorrence of cruelty and ceaseless devotion to the claims of justice." The report of the Commission was out and out a good thing no doubt, but the execution and attainment was very poor.

In 1952, another Commission was appointed under the Chairmanship of Dr. A. Lakshman Swamy Mudaliar. This Commission was meant for Secondary education. The Commission envisaged that the students should not go directly to degree course i.e. for higher education without thinking the future prospect. There should be some professional guide. Those who have got interest, aptitude, intelligence in general line they should go to higher education. Others are to be provided by vocational, technical or professional education and training. but the suggestions of the Commission were not followed impartially due to the faulty system of execution.

Another Education Commission was appointed in 1964 headed by D.S. Kothary. It included all stages right from pre-primary to University level. Many recommendations were given for different stages to reorganise the present system of education with a view to improve the whole status of education suited to the independent country like India. It is painfully aware that due to the unmindfulness of the implementing authority the significance of the Commission could not be attained.

Lastly, the national policy on education has been adopted in 1986. Free and compulsory education is to be given to all the students upto 14 years of age is one of the policies of the National Policy on Education. There are other policies where effective implementation is needed. No other policy or Commission is adopted till today except the above for reforming or reorienting the process of giving education to the children of the independent country, India, to make them fit for the same.

'The old order changeth yielding place to New'. This is a universal truth. In the days of Gandhiji there were no arms and ammunitions to fight against the British to secure freedom. Only 'Non-co-operation movement, Satyagrah etc. were the weapons for driving out the Britishers from India. But today, what we have seen inside or outside the country, simply we have observed bullets and guns. Present day culture is quite opposite. Population during 1947 was less than the population of today. Democracy of today is quite different from the democracy of the days gone by. Democracy for the people, of the people and by the people is in the text, not in actual sense. Laws are in the law books, we read, we know, we pass the examinations; but we have violated the laws. We know about sin, crime, vice, but we have committed sin, crime, vice. Sympathy, endearment, honesty etc. are in dictionary.

Why this change has been occured? What are the root causes of this unhappy occurance. Being an independent country, why the citizen can not understand the proper significance of independence. Why don't we try to understand the meaning of dependence and independence? Is there any defect in 'Why to teach, what to teach and how to teach'? 'Why to teach' is related to make our citizens full-fledged to cope up with all sorts of situations that may arise, in the worldly affairs. 'What to teach' is related to curriculum and syllabus. Curriculum is to be constructed suitably according to the demand of the learners in different spheres to suit their interest, aptitude and intelligence for their spontaneous development so that they may come out as a 'whole-man'. 'How to teach' is related to method of teaching Methodological teaching is the most important factor in moulding the learner's career. Teachers are the back-bone of the nation. The contribution of teacher in making a nation rich in all respects is immense. Therefore, preparing a teacher in the true sense of the term is the first and formost duty of the nation. Pre-service training and in-service training wherever necessary should be given to all the teachers whether it may be general, technical, vocational etc.

From the inception of our independence, the general people of India have seen what sort of development is coming down to the nation after the death of Gandhiji and Pandit Jawaharlal Nehru. Development in the right has been going away by and by though we got our own constitution meant for the welfare of nation as a whole.

There are innumerable beings in the world. We, the human beings are also animals. But the human beings are rational animals Irrationality is barbarism which is devoid of conscience and wisdom It has been observed that the rationality in man is going away from the purview of the society of man though not wholly, at a rapid rate.

Gandhiji's dream of 'Ram Rajya' was a mission though not fulfilled. His scheme of educating the children 'Learning by doing" was also a philosophical idea. Dignity of Labour which is necessarily to be infused in to the learner's mind was an essential feature of his farsightedness in educating the children from the grass-root level. Due to mis-implementation it has not been fulfilled

'Education makes a man perfect' is known to all, is said by all. Then, what sort of education is to be given to our children to make them perfect citizen of an independent country? Educationists, thinkers, philosophers, researchers are to find out the ways and the Govt. is to execute the scheme without any bias.

During the last 50 years of independence there were slow progress in the field of education Commissions, plans, schemes have been made but the implementation has not been done. Due to faulty system of implementation, the whole target of reaching educational upliftment has been missing

After the regime of Gandhiji, India's sovereignty has accepted different party-politics. At present, there are so many party politics in India at the central level and state level that it is difficult to remember. It is observed that every party has got a group of young generation and the party utilises them as their tools to capture power and thereby self. Most of the students are captured by the party and they follow it to have some profit. This party politics is partly or wholly hampers the essence of education There is nothing morale in the field of education The degrees of education are meant for earning more money by hook or by crook. Education in its true sense includes knowledge and wisdom Now a days, most of the educated people are without wisdom. During the last 50 years we may say that the country is lagging behind in respect of educational upliftment. The impact of education in the last 50 years of independence is comparatively poor in India to maintain peace, happiness and tranquility amongst mankind as a whole.

ERADICATION OF RAPID GROWTH OF POPULATION

Family Planning

Family planning is one of the most important schemes in connection to control the population growth. To minimise growth rate of population we should not or must not ignore the survival of the born population. We should not allow the population to die out of hunger or to die out of diseases. The medical provision is to be made to obstruct the unnatural death. Men are mortal no doubt, but we must take every possible care so that the death may occur naturally.

There are some medical provisions which are in vogue to control the population growth but the provisions adopted are not accpeted by all people of India. To some religions the medical provisions are against their customs as because they treat it to be sin.

Therefore, the medical provision for birth control is not successful. The population of one section of people will increase and the other section will lose their population strength. Therefore, this process is against a democratic country.

To minimise the population growth, the conception of a happy family must be rooted through education from the grass-root level of education a child. curriculum and syllabus is to be framed in such a manner so that the learners may be attracted for enjoying a happy worldly life.

To control the population growth, another means may be adopted. This is by imposing the law of monogamy in all spheres irrespective of class, creed or religions. The eradication of population growth can be expected only when one spouse is allowed to have 2 or 3 children. It is expected that if the above

provisions are executed in its true sense, the complete eradication of rapid population growth may be normalised.

ERADICATION OF UNEMPLOYMENT

Employment does not only mean employed by others. It means self employment and employment by others. Self employment is better and dignified than employment by others. For an independent citizen, dependent on himself, not dependent on others is praiseworthy. People say that there are many educated unemployed persons. Educational degree may be had, but it can not guarantee job. Degree holder may take any kind of job infront of him or her. In this respect the dignity of the degree holder is not lowered down, rather his position will be elevated in the society. We may call it - 'Dignity of labour". In a country where the true sense of 'Dignity of labour' is understood, this country is an independent country in the real sense. Employment is every where for all, only, to choose is essential according to efficiency ignoring the status The consideration of human resources of a country should be taken into account by the government so that the resources may be utilised in its fullest extent.

Considering the human resources we have to make provision for earning. The nation therefore, must make educational plan nationwide in such a manner so that the human resources may not go astray being frustrated for want of source of income. Wastage of human resources is very dangerous to a nation. So, whoever be the national Govt., it should be vigilent to take care of the wastage. The learning period of the children of the nation should be taken into account very carefully considering the merit first at the age of 7 years. Those learners who are below average merit, they should be led towards vocational or technical line according to the availability of sources of income already existing or to be existing. Those who are of average merit or above average merit they should be sent to general line. Thus the division of learners should be made in order to check the wastage. On the whole sources of income must be made available to the self employed or to be employed according to efficiency and merit. It is hoped that the eradication of unemployment may be fruitful and unemployment problem will be mitigated.

ERADICATION OF POVERTY

The condition under which the people are suffering from hunger is called poverty. No source of income except begging, they are called poor and helpless. Begging is not the means of livelihood as because in some situations beggars are deprived of getting alms. Non-availability of source of income does not bring poverty alone. There are other causes of poverty such as laziness of idleness in doing works. On the whole poverty is a curse to the society of human beings as well as to the nation.

The poverty must be eradicated from the human society through a properly planned scheme. In India, some people are living below the poverty line. They have no means to live and by and by they are going to embrace death. Death due to hunger in a democratically administered independent country is a discredit to the nation as a whole. Legislators, administrators and judiciary composed of human beings should think for the protection and welfare of the citizens under their jurisdiction impartially irrespective of class, creed or any party politics, or regions living in different corners of India and should treat them as their brothers and sisters. Any kind of corruption should invariably be dealt with severe action to get rid of poverty. More or less it can be said that corruption helps to bring poverty to the nation. Politically our country is not judicious at present. Execution of schemes and plans is not true to the point due to which poverty comes in.

To completely eradicate poverty, it is essential first to eradicate population growth which will help the eradication of unemployment. The eradication of poverty will be fruitful when the two mentioned above will be successful.

Conclusion

During the last 50 years after our independence we, the people of India are not satisfied with what we have not rather we are panicy in respect of all things. The impact of education on people as we think is adverse to the interest of the people. Now our country is in the grip of uncertainty. Now we can not say about humanity. Our culture is going down and down. Now, co-herently we all should try to check

and try to wipe out bad things to yield good things for the interest of peace and tranquility among mankind as a whole.

Therefore, in the next millennium the more stress is to be given on education as because the proper education makes a man healthy wealthy and wise. It has been seen and observed that the present environment is vicious. The environmental influence is stronger than hereditary influence. So the learners are to be kept in a residential type of institution under the guidance and care of the well-trained teachers.

Education must not be politicised. We all should think that the children of our country are assets of our own. If we can produce them as "Whole man", the country will be able to go ahead. The government, states and central should work co-herently for the welfare of the country wipping out all sorts of corruptions which are now prevailing in our country and should place a strong bar so that the repetition of the same may not occur. In this context we can mention the Prime Minister's praiseworthy statement published in the Assam Tribune dated 4th August 1997.

'If those holding high positions, whether Minister, Chief Minister or any body else, are linked with corruption, the question of their removal is one issue, but they would have to go to jail".

"There is a need for social movement among the people to eradicate corruption".

'Let us take a vow to fight corruption and see that neither we give nor take bribes, when the country is celebrating its 50th year of independence."

Then and then only we, the people of India can expect the better though not best for our independent country in the Next Millennium.

Ancient Education - Foundation Stone of Human Development

Asha Rani Rai[1]

The Indian Rishis and thinkers were analysing the real nature of things at the time when the culture of other countries was at its initial stage. The limitless sea of knowledge did not come into existence all of a sudden, on the other hand, it is the result of continuous striving of human intellect, in fact, knowledge is man's third eye. According to the Mahabharat there is no other eye better than knowledge. Real knowledge leads to salvation. Knowledge defends us like a mother, leads us to right channel like a father, drives away anguish and agony like a wife. In reality, man without knowledge is like an animal.

Education is the foundation stone of human development. It is rightly remarked that without the worship of literature, music and art, man becomes equivalent to a beast. It is through formal and informal education, a child learns his culture, and develops traits like benevolence sacrifice and obedience.

In the history of human mind, Indian spiritual thinking has played a very impressive role. This introduced such system of knowledge which not only secured and endured the vedic literature but motivated a number of original thinkers in different fields.

According to the Indian Rishis, the first and the last objective of Vedic education was to develop fully the mental faculties of an individual.

In ancient India, "Upnayan Sanskar" marked the very beginning of religion and literary education. In this `Upnayan Sanskar', a child was taken to a `Guru', who used to perform different rituals and made him wear the `yagyopaveet'. This sanskar took place at the age of seven or eight years. The ancient education institutions, and Guru's Ashrams were located at deserted and secluded places, which enabled them to come closer to nature and understand the spiritual values of life easily

According to the ancient teachers education can be imparted in three ways -- By living in Gurukuls and Ashrams of Rishis, by living in the houses of famous and learned teachers, and through self-studies.

Historians admit that due to her system of education, India was at the top of civilization among all the countries of the world, as a result of which there emerged a galaxy of learned personalities in the field of philosophy, literature, spiritualism and Vedic knowledge

Education was all pervasive, that is why Ashvapati, Son of Kakay declared, "There is no thief, no miser, no one is addicted to drinking, no one is literate..... everyman performs the yajna". But today in the same countries, there are prevailing several problems of illiteracy. The `tradition of tuition' originated by Acharya Drona is blooming and blossoming Gurukul systems of education is at its decline. Today none of the rulers of the world has so much morality as to follow anyone of the declarations given by king Ashvapath.

Relation Between Guru and Pupil

The upnishads describe the necessity of `Guru' for spiritual knowledge. In the Mahabharat also, there are also two main duties prescribed for pupils. Firstly, to follow the commands of the Guru, and secondly, to please the Guru with best conduct.

The relation between the Guru and Pupil distinctly explains what type of individuals are suitable to be educated under any Guru.

In Vedic period, the Guru was given the status of a God. The life of the Guru was an `ideal for his pupils. The pupil used to gain perfection by following the footprints of their Gurus. They had great respect and reverence, faith in their Gurus. They considered the service of gurus as their doly duty. They used to beg for the Gurus, used to perform all the household works, look after their pets. Thus this type of way of living enriched and perfected them not only mentally but physically and intellectually also. The Gurus in turn also took complete care for the pupils it needed; they even nursed their pupils.

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The pupils were imparted knowledge according to their level of intelligence, capability and calibre. If a pupil surpassed his gurus in knowledge and learning, it delighted the Guru instead of hurting his ego.

The sweet relationship between Guru and pupil described in the following manner. Parents given birth to a child and the gurus develop him mentally, and intellectually.

Teacher

Teachers used to impart oral education for mental development Stress was laid on the correct pronounciation of words and letters.

Educators compared the rote learning among the students with the donkey who experiences the load on his back but does not know what is loaded on his back.

Where there is a rapport and feeling of love, affection between the Guru and pupil, knowledge will reach perfection, and where it lacks the rapport, the individuals might attain high position and offices but they will fail to imbibe in them the qualities of a high character. The learned gurus never hesitate to quote the views of their pupils in order to encourage them morally and spiritually.

The light of knowledge coming from the Gurus, drives away the darkness prevailing all around. That is why teachers were given a very high position in the society.

Aim of Education

Only those students who completed their education to the satisfaction of their Acharya deserved to be called graduates. The system of `Samavastam' of ancient education (convocation ceremony of the modern education) is still in practice.

The ancient Gurus held the opinion that education of the child must begin from the tender age of five because knowledge attained in childhood is clear and everlasting. The process of education, although, is a perennial process, running throughout the life.

In modern times, the teachers calculate the intelligence quotient of the child on the basis of personality test, intelligence test and decide the field of specialisation for a child. In the same way, in ancient times also educators had introspective foresight, with the help of which they found out the latent talents of child and decided whether the child is suitable to be a Brahman, Kshtriya, Vashya and Shudra. There was no need of any certificate, instead the judgement or the decision of the teacher was the final judgement.

Syllabus and Duration of Education

On the basis of Chhandogya, Mahabharat, Vishnu Puran, Vayu Puran, Yagyavalkaya, Smriti, in ancient India, there prevailed fourteen to eighteen fields of knowledge or science.

From the scientific point of view, the duration of education is twenty years, as Maharishi Dayanand Saraswati has described in `Satyarth Prakash'.

Academic Session

The ancient educators held the view that education should start from the Purnima of Shravan month. On this day, pupils assemble in the ashrama of Acharya and pay glowing tribute to ancient rishis, who enriched the national literature. In the month of Phalgun, Utsarjan Sankar takes place and one again vedic Gods and Goddesses are worshipped. At the end of the studies, Samavartan (Convocation) took place

Modern thinkers believe that today education is completely secular. The duration of education is seventeen years (10 years upto high school +2 years Intermediate +3 years for graduation and 2 years post graduation). The percentage of literacy is 52.11. No doubt man has succeeded to reach even the moon. But the standard of morality, civility and spirituality has shown a sharp decline. Today, there is the necessity of following the sacred system of Gurukul. The blending of the ancient teaching of Gurukul with modern

scientific knowledge will produce balanced, moralistic individuals filled with the feeling of universal brotherhood.

Hold Fast to Values - A Thrust for Education

Lydia Fernandes[1]

The Present Scenario

Life is like a journey across a wide ocean. On this journey we encounter many forces that threaten our lives : waves of fear, winds of depression, powerful typhoons of anger, powerlessness and despondency, undercurrents of aggression and violence of all sorts and a host of other storms and rages of the winds. The signs of the times of all sorts and a host of other storms and rages of the winds The signs of the times are growing more ominous day by day. Not a day passes without newspaper headlines reporting violent crimes, scams, corruption, bribery and murder. Burgeoning of alcohol and the drug sub-culture is on the increase. The divorce rate is soaring with families collapsing around us Communalism - a divisive force, seems to destroy the very fiber of productive and peaceful life among people. Alongside, there is an increase of homelessness, poverty and inequality depicting the chasm separating the few rich from the masses of the indigent and marginalised. The dynamics of all these forces causing disharmony and degeneration of quality of life and values can be described by the two interrelated factors:

i) **The rich - poor divide which causes numerous tensions and confrontations**

Even though the post-independence years have witnessed a dramatic transformation of the Indian economy with unprecedented upward growth in industrial infra-structure, food grain production and steady rise of per-capita income, the ownership of these assets and the control of the distribution of surplus has remained in the hands of a few, resulting in the rich-poor divide. The consequent concern is not mere abject poverty but it is that which causes poverty, viz., **Inequality**. This inequality can be seen in terms of the acquisition and distribution of income and assets as well as in the ability and possibility of the poor to avail of the opportunities to develop in them those capabilities needed to acquire income and assets. Besides, the poor are victims not only of material deprivation but also of psychological deprivation, viz., self-respect and human-dignity, resulting in the **Dehumanization of the Person**.

ii) **The extremely diverse ethnic, linguistic, cultural and religious identities of the people of our nation**

Regionalism and ethno-cultural or religious identities constitute an explosive mix that endangers the democratic ethos and the very existence of nationhood and national integration. Over and over again ethnic, caste, linguistic, regional and religious feelings have been aroused to mobilise diverse communities and to exercise pressures to gain various economic and political advantages The monster of communalism is spreading its tentacles to practically every sphere of life in India. It seems to be the most dangerous threat to our political integrity. Over the years it has become stronger and more widespread.

Communalism breeds communalism whereby the communalism of one community brings the worst out of the communities it attacks. Jawaharlal Nehru pointed out, "The communalism of the majority community can easily pass off as national while that of the minorities is quickly branded as separatist". However, all kinds of communalism is reprehensible or the greatest threat for harmony and peace today is communalism shaking the confidence of the people in our secular, democratic traditions.

Religion and cast play a significant role in the genesis and growth of communalisation, but a serious analysis of communal violence reveals that the greed for economic gain and political power is more than often the root cause, the manifest religious or caste overtones being invariably a

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camouflage intended to disguise the conflicting economic and political interests of the aggressors. Very few riots are spontaneous outbursts of communal hatred.

Values - The Thrust for Today

The present national situation points to the fact that we are becoming more and more a nation of people divided from one another and more and more we find ourselves isolated from others. The evils of inequality, dehumanization and communalism present a dismal picture of degradation of values cherished by the people of our nation through the centuries. The ship of our human life continues to rock with these varied opposing forces. But there is good news, and the saving news is that, as in a ship where there are steel-railings around to protect one from falling overboard in the midst of gusty winds and the choppy sea, our plunging ship with all its evils and stresses will not throw us over the edge of safety. We too have life rails to grasp and to keep us from tumbling over and drowning in the turbulent sea. These life-rails are the **Values of Life**. If every person, the young and the old, the rich and the powerful, the weak and the indigent irrespective of religion, class and caste discovers these life-rails and holds on to them, our country will be the most happy place for all to live.

Educators have listed an array of values and even a full life time will not be sufficient to acquire all of them. What is imperative is to identify those that are most essential towards quality of life. One categorization of values could be:

- Basic Values in terms of our belonging to the family of God as the father of all, our belief and faith, a life of honesty, love and service, the ethical and the spiritual components which is the bed - rock of human life on this earth.
- Personal Values, related to cleanliness, dignity of labour, diligence, courage, maturity, excellence and the like.
- Neighbourly Values which include magnanimity, gratitude, tolerance, courtesy, patience, forgiveness, dutifulness and a host of others related to those around us.
- Current Situational Values which consist of evoking a positive response in us like joy and rejoicing at people's or nations' achievements, sadness or grief in times of calamities, generosity and an urge for justice or creative endeavours when confronted with issues of national and international magnitude like human rights, environment, child labour and women's development.
- National and International Values among which are freedom, accountability, justice non violence, brotherhood, sympathy, service and sharing.

Agenda for Education - Hold Fast to Values

All have a responsibility in influencing the value structure of people, viz., media and other agencies. However, educational institutions have to be the most appropriate places where values of life become realistic and concrete to the learners. This is a difficult task for education, in particular, in today's world where the media bombards conflicting values through stimulating and appealing presentations. The role of education would consist in guiding students towards acquiring positive personal, social, behavioural and moral/spiritual values. These values to be internalized and personalized by the students and the educational programs need to be carefully planned and implemented. The students have to be guided:

- to clarify values and to analyze life's problems ethically. Students need to make personal choices of values and discover whether a value is a noble value or a negative value. This sifting and choosing is an essential dimension of preparing students to face conflicts and making choices of life;
- to achieve an approach to life, of fidelity to positive values. Real happiness comes when a person has a clear direction in life and when he/she makes definite principles and values one's way of life, clinging on to them with courage and fortitude;

- to have a concern for others and develop a humanistic approach. A human person is not an island We are social beings. We cannot be fulfilled personalities unless we reach out to others through mutual concern and understanding. Any situation around us calls for feeling for and with others, to think of others and undergo an attitudinal change by transcending the narrow walls created by religion, caste, race etc.
- to develop a critical social consciousness It is necessary that the students develop the ability to see, judge and act, for in today's world they cannot afford to be passive observers and be naive to everything that happens around them. They need to be trained to respond emotionally and intuitively with an equal amount of rational analysis to any situation and thus develop a critical consciousness

Approaches to Value Inculcation

According to Albert Bandura (1977), many of the behaviours that people exhibit have been acquired through observing and modelling others. We learn from different types of models, viz., a live model and actual person demonstrating particular behaviours, a symbolic model, a person or character portrayed in a film, television show, book etc. Values are best learnt through modelling by the educational institutions - the atmosphere that makes up the values lived by significant persons in the institution. While modelling values through education has the greatest impact, approaches to inculcate values through value clarification strategies can prove truly beneficial towards student growth. Ever since educators and educational administrators have realized in the post-independence period, the need for a deliberate effort towards inculcating values, several techniques and approaches have been evolved The presenter has evolved and tried the following strategies very successfully.

I **Institutional Objectives as a Focal Point for Value Clarification**

i) **Identification of Values** : The Vision and the Objectives of an Institution reflect its value priorities and concerns. The students can be involved in identifying those values, in terms of personal, behavioural, ethical and social values.
   - The values identified are categorized as broad values. These are defined operationally in order to find concrete indicators for an action plan.

ii) **Evolving and Action Plan** : An action plan is then drawn up to implement specific actions through the curricular and co-curricular activities of the institution, or daily routine, e.g., a spiritual value of 'Faith in God' could be concretized through the action ' I will spend five minutes every morning to feel/experience God's presence in my life', or a personal values. 'intellectual alertness' could be as . 'I will spend half an hour in the library every day to do reference work'; and so on.

The action oriented plan needs to be specific, concrete, practical and measurable. Such an action is bound to yield positive results in the life of students.

II **Value Integration through the Curriculum**

i) **Identification of Value Components at the Plug-Point in the textual lesson :** In the process of lesson planning by the teacher, he/she locates textual content replete with values to be imbibed, e.g., while teaching History, we read about the spirit of repentance by Ashoka. The point in the lesson provides a 'plug-point' for the teacher to dwell on the particular value. An alert teacher will identify personal, social, national and a variety of values in the different curricular subjects.

ii) **Discussion and Action Commitment on the Value Identified** : The teacher uses the plug-point to dwell on the value through discussion, debate or other techniques in order to clarify the characteristics of a person who practices the value. A personal action commitment can be followed through activities towards application of the value to daily situations.

III **Education of the Caring Impulse**

i) **Building a Culture of Caring** : An institution needs to function in such a manner that CARING becomes its hallmark - caring for humans, caring for the environment and caring for the sublime. A caring atmosphere will develop a 'Caring impulse' in the students.

ii) **Co-curricular Activities** : The competitive activities invariably have the dimension of 'put down' of others in order to achieve the succeed. The focus of the literacy club, humanities club, science club and other programs of the institution could be toward 'individual growth' and 'care-concern' of students and persons.

iii) **Out-reach Programs** : Our schools need to have extension education programs in order that our students are provided exposure to the present social situations - slums, poverty, illiteracy and human degradation. The 'caring impulse' can be generated through such out-reach experiences and help them to work for the welfare of the needy and the marginalized.

Conclusion

We pass this way but once; any good we can do, let us do it now. Our greatest hope lies in ordinary people who are awake, alive and alert. I believe that the hope for the future lies in the hands of educators, at the grassroot level.

If all our learning and training cannot make us persons with good values, then our education is a failure.

'While planning for a year - sow corn
While planning for a decade - plant trees
While planning for life - train and educate people'

Kwan - Tsu

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Democratic Value Education - A Strategic Appraisal

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Introduction

Democracy has been viewed, "not merely a form of government, but a common ethos, a common way of responding emotionally, even common standards of conduct in private life" (Eliot 1978).

In the present paper, the term "democracy" has been used in the perscriptive terms It prescribes ideals for the society, makes provisions for participation of all its members in the matters of their welfare and secures flexible readjustments of its institutions through the interaction among different forms of associated life.

India, the largest democratic nation in the world, institutionalized its democratic polity around an integrated set of ideals of Indian Constitution viz. "a sovereign socialist secular democratic republic"

It is the democracy that claims to prevent and cure poverty, cruelty, ignorance, corruption, oppression, and bigamy and contrary to it claims to bring equality, fraternity, justice, prosperity, security, leisure, peace, freedom and right to love.

The above stated ideals of the Indian democracy reflect certain values. The realization of these values brings success to democracy, because these values have Universal appeal. They help in eliminating obscurantism, religious fanaticism, violence, superstition and fatalism by creating better, fuller and purposeful life for sustaining democratic society.

In a socially plural, regionally imbalanced and culturally diverse society, democracy appears to be the sole binding thread across the lingth and breadth of the Indian sub-continent. Hence, education of democratic values becomes imperative for the sustenance and growth of the system.

Through an appraisal of the conceptual structures in literature on values some operational aspects figure up - values are:

- a standard of desirability but not norm
- desirable but not merely desired
- individual or social in nature
- manifested overtly or covertly
- what the human subject or valuer perceives over any object or activity and resulted out of choices made over available alternatives.

All the aspects very closely approximate the Kluckhohn's (1951) operational definition that states - a value is a conception, explicit or implicit, distinctive of an individual or characteristic of a group, of the desirable which influences the selection from available modes, means and ends of action.

Values as entities lie in the innermost orbit of the psychological structure of personality. Value-imbibing is not exclusively a cognitive phenomenon, it involves all the three dimensions of personality: cognitive, affective and psychomotor.

Values keep on changing at every age with experience. But at no time in life, an average man or woman is likely to be concerned about values and standards as much as during adolescent period. It is a transitional period when ideas and values consolidate. As values are individual and at the same time social in nature, a whole range of individual components viz. cognito-affective characteristics are the determinants of value at one hand and on the other the totality of the socio-cultural, economic, political and environmental factors continuously keep on affecting values in direct and indirect ways. Because of

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such a wide range of factors affecting values simultaneously, the process of value education has become a very complicated process.

In the present paper only a few individual factors have been incorporated.

To study the structure and dynamics of personality, many attempts have been made. Of some serious attempts to the study of personality, the theory advanced earlier by Eysenck (1947) and as it stands now after emerging from various cross-currents of criticism, has gained widest acceptance among the students of education. The theory points to 4-mutually independent factors, of which apart from intelligence, introversion-extroversion (I/E) and Neuroticism (N) have been found to relate to learning and performance.

Lately, working upon, value education, Raths et al. (1979) pointed out value related behavioural types. It refers to types of students whose behaviour pattern signal high probability of value - confusion. Rath and his associates (1978) identified 8-value-related behavioural types; apathetic, flighty, very uncertain, very inconsistent, the drifting and over conforming child. Out of the list, the consistency has been chosen for the investigation. Very inconsistents are the limiting cases but consistency is a value related behavioural type which is generally observed and figures as a factor in the issues related to value education.

Conventional methods of value-education are based on the persuasive models and so suffer from the air of indoctrination. Value-literature refers to a number of methods of value-education. The two methods which are repeatedly tried in a wide variety of situations successfully namely self-confrontation method of Rokeach (1973) and value-clarifying method of Rath(1978), were selected for the investigation of democratic value education.

Rokeach's (1973) value-self confrontation strategy is based on his belief system theory. This theory basically moves around the most fundamental class of beliefs. According to Rokeach (1973) "all self-cognitions can reasonably be represented at the innermost core of the total belief system and all remaining beliefs, attitudes and values can be conceived as functionally organized around this innermost core."

Any induced inconsistency among any two cognitive components implicating self-conception may lead an individual to a state of self dissatisfaction. This affective state is postulated to be basic motivation for change in values, behaviour, attitudes or beliefs in order to make the belief system consistent. Value self-confrontation strategy transforms the belief system theory into action. The available evidence revealed that the basic psychological mechanism underlying the value self-confrontation strategy is the affective state of self dissatisfaction that generates durable changes in values (Hollew, 1972, Hamid and Flay 1974; Rokeach and Grube 1979 and Sanders and Atwood 1979).

Since the times of early studies in this direction by Rokeach and his associates (1978), till the studies of Sawa and Sawa (1988) and later, it was confirmed that the changes in values through this method have been more lasting than other methods. This view was also confirmed by Sheela (1990) for the education of values characteristically identified as determinants of teaching effectiveness.

Value-clarification theory (Rath et al. 1978) consists of four key elements, a focus on life, an acceptance of what is, an invitation to reflect further and a nourishment of personal powers. The clarifying response strategy is a practical application of his theory. The theory operates through various strategies such as dialogue strategy, writing strategy, discussion strategy, strategies to expand awareness of consequences and many others. As a theoretical approach it aims at increasing one's ability to clarify one's value issues via valuing process.

Recording a few empirical evidences significant impact of value-clarifying strategies were observed on attitudinal change in social context (Rogers, 1983, and Lassiter, 1984). Besides, behavioural changes concerning reduction in the use of drugs, (Krischenbaum, 1974; Clarke, et al. 1974 and Gorsuch et al. 1976), the strategies led successfully to meaningful value-change (Arno et al., 1974; Gorsuch et al., 1976; Patrick, 1982 and Lassister 1984). The studies showed that value-clarifying strategies are more effective than traditional strategies, (Little, 1975; Sing and Singh; 1986). The study of Kinnier (1987) demonstrated the integration of this strategy with others - The study of Safrit (1990) led to an inference that values clarification could help in identifying 13 curriculum related values of the professional employees. Sima Paul (1995) successfully used the value- clarifying strategy for identifying the curriculum related values of the student teachers in West Bengal. These evidences scattered over a wide

range of human activities convinces of their worth to affect democratic values among Indian subjects when they are at their most crucial stage of development.

Objectives

The investigation was carried out for each one of the seven democratic values namely, (1) Regards for dignity of individual, (2) Equality of status and opportunity, (3) Sympathy with every one, (4) Openness to Reason, (4) Tolerance for differences in opinion, (6) Responsibility and (7) Co-operative decision making, separately to attain the following objectives:

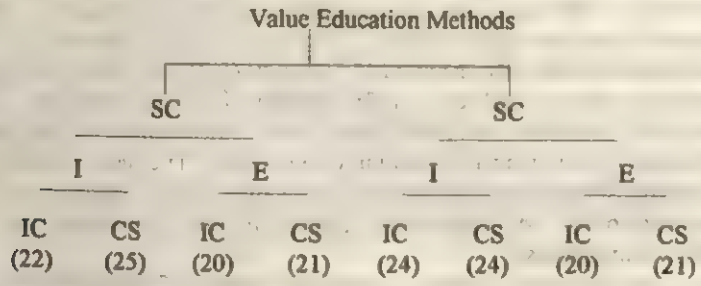
- to study the effectiveness of the two methods of value-education namely self-confrontation and value clarifying response.
- to study the effectiveness of the two methods for :
  a. introversion and extroversion; and
  b. one value related behavioural type (inconsistents and consistents)
- to study the interaction effects of the methods of value-education with dimensions of personality.

METHOD

Participants

The subjects (n=708), with age range of 16 to 17 years comprising final year pre-university students of North-Eastern Hill University, Mizoram Campus, Aizawl participated in the study. With the help of the personality inventory of Kundu (1976), the group was screened such that the subjects with scores of 179 or more and 122 or less were treated as introverts (n=140) and introverts (n=111) respectively. Each one of the selected subjects was rated, on the value-related behaviour problem (VBP), by himself, by three of his class-mates and the two of his teachers through (1) self rating (2) peer rating and (3) teacher-rating form of VBP Device. On the basis of the combined scores on all the forms of VBPD, subjects with scores more than 04 were rated as inconsistents and less than 04 as consistents.

The participants from each group were then assigned randomly to the method of self-confrontation (n=88) and clarifying-response (n=89) thereby resulting in eight groups with subjects as follows:



Instruments

Democratic Value Survey - (DVS) : It was developed on the style of the Rokeach value survey. It contains seven Democratic values.

1. Regards for the dignity of individual
2. Equality of status and opportunity
3. sympathy of everyone

4. Openness to Reason
5. Tolerance for difference of opinions
6. Responsibility
7. Cooperative decision making and the four distractors -

- Cultural Preservation
- Service for needy and depressed
- Loyalty to authority
- Self-progress

All these were arranged concentrically from the nucleus to the outer orbit in an order of importance in an democratic society. The distractors were added in the survey to provide a full range of alternatives of value related social behaviour. The coefficients of stability over an interval of 10 days was found to be .90, .90, .97, '90, .92, .93, .89, .86, .80, .95 and .90 for the respective democratic values and their distractors.

Value-Self Confrontation Instrument : It was developed after Rokeach's (1973) value change instrument by replacing the values in the original instrument by above mentioned democratic values.

Values - Clarifying Instrument: Following the guidelines of the value-clarifying response strategy of Raths et al (1978), the instrument was devised. The instrument used the dialogue/operating through three different steps.

a. Establishing rapport
b. Becoming aware of one's own values
c. Choosing, Prising and acting upon values.

The instrument was validated.

Kundu-Introversion-Extraversion Inventory (KIEI) : The inventory consists of 70 items with even number of response choices. The split-half reliability coefficient was 0.82 and the validity coefficient against introversion - extroversion scores of Eysenck Personality inventory was 0.47.

Value-related Behaviour Problem Device : For determining (VBPD), the consistency aspect of value related behavioural types, the three forms :

1. Self-rating form
2. Peer-rating form
3. Teacher rating form

were devised.

Procedure

The experiment was conducted in three phases :

1. All the 174 participants were pre-tested individually on the democratic value survey.
2. One matched group consisting of 87 participants was given the self-confrontation treatment and the same number of participants the value clarifying treatment individually.
3. A week after the completion of the treatment, all the participants were post-tested on the Democratic value survey.

In order to employ ANCOVA, the pre-test and the post-test ranks were transformed into the normalized scores with the help of C-scale values with mean = 50 and SD = 5 (Guilford, 1954).

Results

In order to examine the effectiveness of the two methods for imparting democratic value-education across introversion - extroversion and consistency levels, the procedure of Analysis of Covariance (Winer, 1971) was employed on the pre and post test scores for each one of the democratic values. The results of ANCOVA (table I) pertaining to each democratic value have been presented in the table-I)

Table - I

The F-ratios on the Adjusted Means for the Seven Democratic Values

Variables	df	Dignity	Equality	Sympathy	Openness	Tolerance	Responsibility	Co-operation
A	1	10.34**	20 83**	1 79	10 24**	5 20*	12 85**	2 95
B	1	1.66	2687.00**	42 77**	1 01	2 93	2 10	7 85**
C	1	0.53	0 99	0.15	0.00	0 08	0 14	0 06
AxB	1	8 64**	0.00	0 28	5.46	0 14	4 98*	0 38
AxC	1	0 83	2.76	2 38	8 21	6 00*	6 72*	0 36
BxC	1	4.58**	19.87**	0 10	1.76	0 16	0 82	3 33
AxBxC	1	0 88	2.47	3 11	0 48	8 07	7.81**	0 65
Error	165							
Total	172							

* Significant at .05 level (for 1, 150 dfs = 3.91)
** Significant at .01 level (for 1, 150 dfs = 6.31)
A=The two methods, B=The personality types, C=The consistency levels

Main Effects of the two methods

The F-ratios for the differences in the adjusted means for the two methods were found to be significant in respect of :

a. Regards for the Dignity of Individual;
b. Equality of status and opportunity;
c. Openness to reason;
d. Responsibility; and
e. Tolerance.

The examination of their respective means suggests that -

- Clarifying response strategy was found more effective for (a) Regards for the Dignity of Individual, and (e) Tolerance.
- Self-confrontation was found more effective for (b) Equality of status and opportunity, (c) Openness to reason and (d) responsibility

The F-ratios for the difference in adjusted means for the two methods were not found significant at the specified levels in respect of

a. Sympathy and
b. Cooperation.

Two order Interaction effects (A&B) between methods and personality type (introversion extroversion)

The interaction effects between the methods and personality types were found significant in respect of

a. Regards for the Dignity of Individual
b. Openness to reason and
c. Responsibility

For all the three values, it was found that self-confrontation method yielded better results with extroverts and clarifying response strategy with introverts than their respective counterparts.

Two order interaction effects (A&C) between methods and consistency levels

The interaction effects between the methods and the consistency levels were found significant in respect of

a. Openness and
b. Tolerance than its counterpart. The self confrontation yields better results with consistants for
c. Responsibility than the other method.

The Three order Interaction effects (AxBxC)

The three order interactions among method, personality types and consistency levels were found significant in respect of

b. Tolerance
c. Responsibility

The examination of their means on Tolerance suggests that self-confrontation yields better results with consistent introverts but clarifying response yields better results with consistent extroverts.

On the value Responsibility, the examination of the respective means suggests that for consistent introverts as well as extroverts self-confrontation method yields uniformly better results than the clarifying response strategy.

Discussion and Conclusion

The analysis of the data of the study indicates that no uniformly effective method of value education was found in respect of all the democratic values for all the subjects. The introversion-extroversion and consistency were found significant determinants of the value education methods for most of the values. The two democratic values namely Sympathy and Cooperation were exceptions. These values were not found affected by any of the two methods as such. It appears that the seeds of such values are sown very early in their lives and may be ascribed to early nurture, family environment and parental values.

For education of values like equality, openness and responsibility, the self-confrontation method was found significantly more effective than clarifying response strategy.

It may be argued that the induced contradiction between adolescents' self-conceptions and cognitions about their total value performance through the self-confrontation method appears to lead to a state of self-dissatisfaction in the ranking of these three values. It motivated them to recognize their guiding value system for making it more compatible with their self-conceptions.

For imparting education to the adolescents in respect of Individual Dignity, and Tolerance, the clarifying-response method was significantly more effective than the self-confrontation method. It may be ascribed to the comprehensive character of dialogue strategy of value-clarification which explains its effect on values.

The two methods were not qualified by personality type (introversion-extroversion) for the values like Sympathy, Cooperation, Tolerance and Equality. These values may be supposed to reside deep with the ego-structure and initiate and guide behaviour (Wagner, 1986).

For individual Dignity, Openness to reason and Responsibility, the clarifying-response was better for introverts and self-confrontation for extroverts than their respective counterparts. The differential effectiveness of the methods may be ascribed to certain basic discrepancies between these two personality types. The nervous systems of introverts are weak compared to extroverts. (Eysenck, 1967). The

introverts respond at lower level of stimulation and with greater intensity to a stimuli than the extroverts (Khanam, 1983)

The two methods were not qualified by value related behavioural type consistency in respect of Dignity of Individual, Equality, Sympathy and Co-operation.

With regards to Openess to reason, consistents were benefitted uniformly more than their counterparts by both the strategies. The methods were not clearly discriminating among the two groups on the criteria of their effectiveness.

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Study of Multivariate Analysis of Perception Related to Family Welfare of Rural Adults in Tamil Nadu

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1.0 Introduction

The global underclass, so called "**Absolute Poor**", according to Wrold Bank comprises nearly one fifth of the humanity who are completely deprived of income, goods and even hope to put them in a special class where the poor live in a condition of life degraded by disease illiteracy and malnutrition and squalor as to deny its victims basic human necessities, a condition of life as to prevent realisation of the potential of the genes with which one is born, a condition of life so degrading as to insult human dignity With such prevailing conditions across the world and in India, where the rural population network constitute a vast majority of weaker sections necessitated the researchers to choose rural adults as the target of the present study whose perception will enable microlevel policy planning for family welfare programmes.

The study is so significant that volumes of research have been produced during the last half a century yet for policy purposes there has been no focus on critical variables which influence perception of eligible couples This particular study has taken into consideration certain statistical control of using **multiple logistic regression using Wald's statistics** and has shifted certain variables which are fundamental to perception of eligible couples.

Needless to state that perception is fundamental behaviour thereby it is focussed that the variables identified in the study could be used by policy makers for evolving purposeful family planning packages

Child Bearing Decisions once the province of couples are now the subject of detailed social planning, in order to facilitate the process of social planning at the national level, the population policy committee submitted its report where the nail is squarely driven on the basic paradigm of looking at birth control alone as a population containing measure and the committee has advocated the necessity of demographic charters for all Panchayati Raj and Nagar Palika institutions, and thus a new lease has been given to bottom line institutions and Micro level planning. This shift also has revealed that Kerala, Tamil nadu, Karnataka and West Bengal, were models in regard to village panchayat activities.

The international conference on population and development (Cairo 1994) a decadal event, held amidst fanfare, controversy and prejudices the terminology such as 'Reproductive Health Rights', 'Adolescent Sexuality' and 'Safe Motherhood' drew lot of controversy as religious and cultural leaders were opposing some of the issues. However, tall leaders such as Boutros-Ghali, UN Secretary General and Gro Harlem Brundtland, Norwegian Prime Minister have succeeded in driving the point that by empowering woman social return in terms of health and fertility can be increased.

In order to instituionalise micro level planning for Family Welfare programmes the perception of individual remains the key factor to study because perception can be considered as the first hand acquisition of information from the environment thus perceiving is acquiring information through sensory system about the objects, places, and events of the world. The study of perception is an attempt to understand these aspects of observation of the world of things and people and depend on the nature of observer (Encyclopaedia of Social Science 1968) and perception is process of discriminating, differentiating and observing. Thus it would be customary to assess how the rural adult population perceive about Family Welfare issue such as social status of women and Girls, Gender discrimination, women's access to education and employment, contraceptive choices and social marketing of contraceptive.

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2.0 Conceptual Framework and Research Design

General works of perception include Murch (1973), Gregory (1966) and Dember (1960), Habert (1969) and Neisser (1967) studied specific consequences of information characteristics of the way the perceiver deals with the mass of incoming information. Pareek and Row (1974-75) coneptualised research relevant to population education. Jhunjhunwala (1974) analysed condition in a slum which is representative of a increasing interest in a Holistic view of poverty condition. Banerji (1971) (1974) (1976) has raised important issues regarding implementation of Family Planning Programmes. De et. al. (1971) studied family environment on family size, Ananthasayanam (1983) studied perception of planned parenthood of male out of school youth in rural areas. Kapali (1986) studied the environmental perception of rural adults. With this over view the researcher have formulated the objectives of the present study.

- To study a proper perspective model of Family Welfare Perception for future studies.
- To fit an appropriate model of inclusion or exclusion of a set of variables which are presumed to be influencing the perception of Family Welfare of Rural adults for future prediction.

Keeping the objectives in mind the study will help to understand the factors influencing perception of Family Welfare of rural adults (weaker sections) which may facilitate the planner and include the component of **Population Education** in all human resource development programme including adult education programmes implemented through **Total Literacy Campaign (TLC)** at the micro level.

The researchers have chosen the Chengai-MGR district of Tamilnadu for the present study because of its easy accessibility for collection of data. The district comprises of 13 Talukas according to 1991 census and 1842 villages according to 1981 census. The subjects involved in the present study belong to both sexes in the age group of 15-35 residing/living in the district. The sample/population are mostly illiterates, drop outs and left outs. 36 villages were chosen and 400 samples were chosen for administering the interview schedule in all the 13 Talukas. The time taken to collect the data lasted for 45 days because of the distance of the sample villages from the city of Madras. The present study has adopted a **Multistage Proportionate Simple Random Sampling Method**, which is widely used in large scale surveys.

Integrating perception of Family welfare with population education is dependent on comprehensive models being developed for perception processes models of human perception and decision making tend to be restricted to description of a few variables and often limited to psychological level of explanation and following the nomenclature suggested by UNESCO (1972) and after a review of conceptual framework the researchers have chosen 21 variables related to individual characteristic socio economic status and mass media exposure of rural adults and are described and classified in relation to their role and status and are relatively objective measures. The variables are coded for computerisation (21 variables described in Table - D page 1036) and these variable form part of the independent variables.

The dependent variable '**Family Welfare**' comprises of **Nutritional Diet for Pregnant Women, Pregnant Women doing household work, More Number of Children in a Family, Mothers Health and impact on Delivery of more Children, impact of more Number of children and Future prospects and Late Marriage** and these were transformed into statements in the interview schedule since the subjects drawn for the study are mostly illiterates the researcher has used the Tamil Version for the interview schedule.

Based on the objective of the study the researcher has evolved a coding procedure. Appropriate weightage were given to statements keeping in view of the nature of the statement (positive/negative) and response error was avoided by repeating Sleeper items.

The present study involving several variables demanded a multivariate design. The objective of finding relationships and to fit an appropriate model suitable for micro level studies dealing with indigenous popuation can be fulfilled more accurately by '**Multiple Logistic Regression**' using **Wald's Statistic** where response variable happens to be binary in nature.

3.0 Analysis and Interpretation

There is a variety of multivariate techniques that can be used to predict a dependent variable from a set of independent variables like the multiple regression technique. However, when the dependent variable is binary in nature the ordinary techniques will pose certain difficulties.

In this study the dependent variable family welfare perception which is binary in nature i.e. perception exists or not, which has been obtained by a collective evaluation of set of questions described in the interview schedule.

In such situations ligistic regression has been shown to perform well to sudy binary dependent variables.

In logistic regression the probability of the event, namely existence of family welfare perception is given by

$$\text{Prob (event = family welfare perception)} = \frac{1}{1+e^{Z}}$$

Where z is the linear combination of

$$Z = B_0 + B_1 X_1 + B_2 X_2 \ldots\ldots + B_p X_p$$

Where B_0 is the constant and B_1 are the coefficients correspondent to independent variables.

The parameters of the logistic model are estimated using maximum likelihood method.

The estimate of the 21 coefficient fitted based on the logistic model are given in the Table-D along with their standard error.

Based on the estimated coefficient one can study the perception which will lie between 0 to 1. If it is around 0.5 and above, then we can predict the existence of family welfare perception for a given set of values. For proper interpretation of logistic model, the model is written as

$$\log \left[\frac{\text{Prob (perception)}}{\text{Prob (No perception}} \right] = B_0 + B_1 X_1 + B_{21} X_{21}$$

Based on the goodness of fit for the logistic regression model, 57 per cent of the people were classified as persons with no perception and 66 per cent were classified as persons with positive perception on family welfare programme. Indeed, the model seems to be an appropriate model as 62 per cent of the overall group were classified correctly, based on a sample data of 400 individuals.

For the logistic regression that contains only one constant -2 log likelihood is 554.02764 and for the correct model the chi square value is 503.554 with 378 d.f.

Table-A

-2 log likelihood 554.02764
-2 log likelihood Chi Sq df 503.554 378

Table-B

Observed	Predicted		Percent Correct
	Negative	Positive	
Negative perception 0	110	83	56.99
Positive perception 1	71	136	65.70

Table -C

	Chi. Sq.	df
-2 log likelihood	503 554	378
Model Chi - square	50 473	21
Improvement	50 473	21
Goodness of fit	395.584	378

Table-D

Variables in the Equation					
Variable	B	S.E.	Wald	Df	Sig
Age	-.0538	.0735	.5356	1	.4643*
No. of family members	.3045	3238	.8844	1	.3470*
Sex	.3856	.1802	4.5804	1	.0323*
Educational Status of the respondent	-.1417	.3023	.2199	1	.8391*
Religion	-.0071	.1987	.0013	1	.9716*
Caste	-.0357	.1158	.0953	1	.7576*
Occupation	6786	.2275	8.8944	1	.0029**
Monthly Income of the respondent	.1853	.1529	1.4678	1	.2257*
Father's Educational level of the respondent	-.2943	.2256	1.7016	1	.1921*
Mother's Educational level of the respondent	-.1831	.2857	4106	1	.5217*
Marital Status	.0361	.1375	0690	1	7927*
Family monthly income of the respondent	-.0077	.0549	.0195	1	.8888*
Type of family	.2345	.2532	.8579	1	.3543*
Mobility towards nearby town	.1429	.1726	.6854	1	.4077*
Newspaper being read	.5300	.2322	5.2100	1	.0225**
Radio facility available in the household/community	-.7926	.4159	3.6316	1	.0567*
Frequency of radio listening	.3991	.2267	3.2367	1	.1348
TV facility available in the household/community	-.3675	.3300	1.3021	1	.2538*
Frequency of TV viewing	.2489	.2554	.9500	1	.3927*
Movie watching habit	.1769	.1169	2 2886	1	.1303*
Different types of movie watching habit	-.0920	.1022	.8114	1	.3677*
Constant	.6248	1.8120	.1189	1	.7302*

* Denotes significant ** Denotes not significant.

The interpretation of logistic regression coefficients 'B' as given in Table-D is different from the linear regression model, as the response is binary in nature. The interpretation of the logistic regression model involves A, the functional relationship between the dependent and independent variable and B, appropriately defined unit of change for the independent variable.

In logistic regression the link function is the logit transformation

$$g(x) = \ln \{\Pi (x) \quad 11 - \Pi (x) \}$$

$$= \beta O + {}^{\alpha}\Sigma \ \beta i \ xi$$
$$i = 1$$

The regression coefficient represents the change in the logit for a unit change in the indepndent variable.

In this study, the presence or absence of perception is a response variable and marital status (married/unmarried) be an independent variable, then $\mu^{\wedge} = e^{\beta 1} = a^{1.5}$ indicates the perception among married people is 1.5 times as often as against unmarried people. The other variables can also be similarly studied for its association. The estimates, cross-product ratio 'μ' can also be obtained directly using the cross-classification of sex and perception as given in Table-B pg. 1036. The standard errors of the variables ranges from .05 to .42, though not vastly different in numerical sense could effect the reliability of the estimates as SE increases. Hosmer and Lemeshow (1989) have covered logistic regression in great detail.

The perception of a person is largely influenced by socio- economic factors and audio/visual media rather than the occupation or reading habits. Also, nearness to a town/city which has a wide access to the developments around the country or region will have an impact on his perception towards family welfare has shown broadly the above-mentioned factors of influence to be significant, which is in tune with reality. In the light of the above results, it is possible to group some of the variable into smaller unit like audio and visual factors to obtain more compact results, if necessary.

The concept of a nuclear family is a thing of the past. In the era of independence, it is better to separate out the income of the respondent and the family for its impact on the perception of the respondent.

The variable, 'reading a newspaper', has to be separated out from the other audio-visual variables as a literate alone will be influenced by what he reads.

Distance Education Technologies have touched the farthest corners of adult learning TV viewing is another crucial variable to be reckoned with: here it is worth noting innumerable studies exist in the area of media support. Radio listening another significant variable where studies reveal Radio Forums have affected certain attitude change.

In all, the consensus is that whether media hard/software has a role to play in changing the attitude and perception of the people. It is also commonsense observation that cinema is a single most powerful media in India. And the present study also indicated movie watching habit attests to the fact that media people vice-versa.

The phenomenon of media supported distance education is worth mentioning here as it at once exemplifies the motivational aspects of the learner in the vast coverage it provides quickly and efficiently.

The analysis of population literature elsewhere points out the fact that in the near future drastic measures should be taken to curb population growth otherwise humanity will have to face crisis of several kinds towards the turn of this century. Such as those in the under class remains the victims of timeless hazard - - rooted so deeply in the social ecology of poverty population explosion threat can seldom be countered with education alone. To over come such a catastrophe one of the prudent approaches is to usher unlimited learning by the populace who are the beneficiaries and functionaries of the environment through information education and communication strategies. It is obvious in this endeavour ruthless techniques to be used to raise the consciousness of the people using Paulo Freire method and utilisation of multimedia approaches as a supporting system towards this end would be in quite order.

Hence the **Multiple Logistic Regression** using **Wald's Statistic** which is more appropriate in studying socio economic where the response variable is binary in nature has been used to study the perception of rural adults the analysis goes to show that the basic hypothesis fits in well even under the statistical strictures the research work can be expanded and extended by considering large amounts of the data and using more complex models such as **Chaotic Models** to study the concept of family welfare perception.

4.0 Programme Implications

The programme implications envisaged in the light of the present findings are as follows:

1 Primary Health Centre should have counselling centres for eligible couples to sensitize the Girl Child norm., AIDS Education, Drug Abuse etc.

2. In this present age of Information Super Highway multimedia approaches should be strengthened for delivery of appropriate messages to the indigenous population by using the tele satellite links. (For e.g. the recent telemedicine facility available at the Devaki Hospital Madras. Source: The Hindu dated 26th March 1996).

3. Programme on Gender empowerment should be drawn in the light of the Panchayati Raj and local self government institutions wherein the women volunteers should be trained for the Master training to render door to door campaign for the onerous task of population control to be guided by the women member of the local self government institutions.

4. Preparation of Demographic Charter for keeping in view of the socio economic variables which have been found significant for a chosen area and intensive population education with political will bureaucratic support and volunteerism, should be showered upon the beneficiaries towards realisation of the goal of NRR =1.

5. Multimedia programmes depicting quality of life variables, such as age at marriage, girl child population and human rights. Drug abuse, AIDS education, Reproductive Health Rights and Adolescent sexuality old age and surrogate motherhood should be developed for perception of rural adults. These are problems of concern by the turn of the century.

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Value Education Through Content Areas

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Nature of Values

Values are beliefs upon which a man acts by preference. Eminent sociologist Mukerji (1996) defines values as "Socially approved desires and goals that are internalized through the process of conditioning, learning or socialization and that become subjective preferences, standards and aspirations" Allport (1969) has defined value as "a belief upon which a man acts by preferences" Values are patterns of choices that guide persons or groups towards satisfaction and fulfilment. They are considered as potent determinants of human behaviour. They form the central pole around which people organise their desires and ambitions.

Values impart significance to life. They are enduring beliefs which work as motivational set, and forces the individual to respond in a specific manner based on socially and culturally approved preferences and judgement. A man is known by his values. They are the guiding principles of life which are conducive to one's physical and mental health as well as to social welfare and adjustment, and which are in tune with one's culture Values help us not only in self evaluation, but in self drive too. An educated person without values has thoughts which never flow in action.

Type of Values

Broadly speaking, there are two types of values : eternal and temporal. Eternal or absolute values like truth, beauty and goodness are mainly related with moral and spiritual development of a person. Temporal or mundane values are contextual in nature, and are essential for our personal and social development.

Values essential for personal development include physical, mental, emotional, moral and spiritual values. Physical value relates to observance of the rules of health and hygiene. Mental value lies in rational thinking and reasoning. Emotional value is concerned with the development and refinement of emotions like love, affection, pleasure, pain, bravery, optimism etc. Moral value is the product of socio-ethical beliefs of a society e.g. honesty, kindness, courage, punctuality, dutifulness, will power, patience etc. Spiritual values are concerned with divinity and religious beliefs, and also with the unity of all experiences and seeking to comprehend the cosmos as a whole. It is characterized by self knowledge, faith in God, purity, austerity, renunciation, pridelessness, meditation and salvation, etc.

Social value is a product of socio-cultural cult of a particular society. Its components are justice, unity, co-operation, equality, fraternity, social service, etc. Cultural values are helpful in the preservation, development and transmission of cultural heritage of a group or society. Economic value helps in the income and expenditure of a person or family. A person having this value believes in saving for future needs and avoids wastage.

Scientific value is helpful in developing objectivity, rationality, power of reasoning and thinking, removal of misconception and blind faith Environmental value is concerned with the preservation of environment and natural resources, and the prevention of air, water and noise pollution, etc.

Thus we find that each and every aspect of individual's life and society has its corresponding value which aspires for the betterment of the individual as well as the society.

Value Education

Education that helps in discrimination between what is right or wrong, proper or improper in thought and action of an individual about an object, event or situation, may be termed as value education.

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It develops positive attitude and constructive approach in our day to day activities. It is through education that the society seeks to preserve and promote its values aiming at all round development of the learners' personality.

The purpose of education is to promote a balanced development of physical, mental, emotional, moral, spiritual and social aspects of the individual in order to produce enlightened citizens of the nation Educationists have stressed the importance of promoting values through education in the present age which is facing the crisis of character in almost all spheres of life Various commissions and committees since 1948 have been recommending value orientation of education The Planning Commission has rightly observed, "It is essential to transform the system of education qualitatively in terms of its value content, standards and relevance to life. The role of education to promote humanistic outlook, sense of brotherhood and a commitment to ethical and cultural values needs to be re-emphasised" Taneja (1986) also stressed that the teaching-learning process is to be conducted in a manner that it should create reflex action for value inculcation among the students.

Teaching values through formal methods has provoked an interesting question Should values be taught or caught? The formalists advocate that they should be taught through a compulsory core-course. The behaviourists feel that values are caught through exemplary behaviours, indirect suggestions, participative experience in value actions, emulative models and impressionistic influences Both of them are correct in their own way. The ideal compromise is to fight on both fronts by accepting the principle that values can be taught as well as caught too.

Teachers have always been entrusted with the responsibility of imparting value education In order to perform this job successfully, a teacher is expected to possess desired qualities of character and be an embodiment of human values himself The Education Commission (1964-66) has observed that "of all the factors that influence the quality of education, the quality competence and character of teachers are undoubtedly the most significant". No doubt these qualities are to be possessed by the teacher, but teacher is also a human being with all its limitations and short comings He is also influenced by different physical and socio-economic forces working all the time in the society. Hence the idealist model of the teacher is gradually becoming unacceptable even by the teachers of today

However, a teacher can not be excused for not helping the students under his charge to inculcate values that are essential for living a successful life in modern times. Rajput (1995) in his paper, 'Trust the teacher for value Education' rightly observes, "Should Institutions and enlightened individuals not really get into an in depth analysis to ensure that universally accepted values and norms continue to guide the path of younger generations in schools, colleges and universities? Could this be done by including few chapters in the text books, providing separate text books or by earmarking one or two periods per week in the time table! Any suggestion at this juncture that schools, colleges and universities must undertake the responsibility to ensure imparting of universal values of love and affection, caring for others and welfare of the society could be taken as a rhetoric by many. This may not exactly be the case Institutions nurtured by dedicated and self-effacing individuals have always played outstanding role in transforming the societies and communities. Probably this can be the beacon light for institutions, teachers and administrators to consider contrasting the task of value education to teachers with confidence and trust". No doubt a number of institutions and teachers are sincerely engaged in the value education of their students both directly as well as indirectly through curricular activities.

Value Education through Content Areas

Developing values through content areas demands the teacher an additional responsibility and concerted effort. While teaching a topic he has to analyse the content from the point of view of values inherent in it. Later on, while presenting the topic in the classroom he has to highlight the inherent values in the background of the present day life experiences of the students. The art of teaching lies in moulding the thoughts, feelings and actions of the students while reacting positively to the needs of imbibing the values being imparted by the teacher during the teaching learning process in the classroom.

The present day education system has become so much examination oriented that the value education receives little attention while teaching a subject. No doubt high achievement in examination is essential, but it caters only to mental or intellectual development of the individual. The teacher can not overlook other aspects of the personality, i e emotional, moral, and social. There is a need to impress

upon the teacher that besides teaching for examination, he has to teach for life also. For example, in a period of forty minutes may be devoted for teaching the topic from the examination point of view; but at least five minutes must be spared for inculcating the values inherent in the topic or the subject matter being taught in the period.

The teacher teaching contents of any subject can easily locate the values inherent in it. Once he has located the value, he needs to relate it to the day to day life experiences of the students. They may be asked to react regarding the applicability of this value in their thoughts and action. Once they are convinced about it, the teacher should see that the behaviour of the students is being shaped and modified accordingly. Let us illustrate with examples a few situations of value education while teaching different subjects in schools or colleges.

Teaching of Languages

While teaching language textbook, the teacher comes across number of poems, stories, one-act-plays, essays etc. All these lessons encompass a number of values that can be easily located. The characters and events of a story or a play represent different qualities of life and value to be cherished. The teacher has to indicate and analyse them with the help of the students. Their reactions should be invited regarding the applicability of the value in the day to day lives of the students. They may agree or disagree, approve or disapprove the values inherent in a particular character or event. Certain qualities may be appreciated while others may be considered futile in the present circumstances. The teacher may guide the students to come out with concrete suggestions regarding the applicability of these values. Once these suggestions have been finalized, the teacher should motivate the students to apply them in their thoughts and actions.

The poems prescribed in language text books of different grades depict the human emotions and life situations in varied forms and colour. The refinement of emotions and the development of moral and aesthetic values is easily possible through the teaching of poetry. For example, while teaching a patriotic poem students may be convinced that they may serve the country by protecting the school garden or maintaining the classroom furniture. Patriotism is also involved in saving the light or water by switching off the fans and taps when it is not required. The teacher may observe in future whether students behave according to the suggestions offered or decisions taken at while studying the poem.

Teaching of Social Sciences

Social Sciences consist of a number of subjects like History, Geography, Civics, Economics, Commerce, etc. All of them aim at developing human and social values, civic sense, brotherhood, national and international understanding, and political and economic values The responsibility of the teacher lies in finding and pointing out the values inherent in a particular topic to the students. While teaching the topic, its content may be analysed and explained as per the requirements of the syllabus. But along with the formal teaching of the topic, the inherent values in the content may also be highlighted in the classroom. For example while teaching and learning the lives and works of the kings and social reformers of the past, those qualities and values should be noted down which are worth possessing even in the modern era of progressive but complicated life situations of the students. The teacher may motivate the students to inculcate these values in their lives and modify their thoughts and actions accordingly.

Students come across a number of situations and ideologies while studying Political Science, Economics, Commerce, Geography and Sociology. They represent a variety of values and life styles which demand analytical attitude and active response of the students. The teacher should help the students to react to different values in their proper perspective. They need to evaluate each situation in the background of their own experience, and should come out with the conclusions and suggestions which are worth applying in their own lives. The teacher should encourage them to act positively in order to lead a satisfied life while serving the society in a fruitful manner.

Teaching of Science

The content of sciences involving a number of subjects like Physics, Chemistry, Biology, Home Science, etc. provides the opportunity of developing physical values, rational thinking, scientific attitude, objective evaluation, observation, experimentation and generalization, etc. These values and qualities are worth acquiring in order to live a fruitful life in the modern age of science and technology. It is unfortunate that the science is taught by just giving information regarding a phenomenon or a principle. Students memorize them without developing the scientific thinking. The values inherent in the content of science subjects are hardly pointed out by the teacher. Students rarely react to them and never bother to apply them in their thoughts and actions. Let us illustrate the point with an example. Children study the utility of green vegetables for healthy living, but most of them abhor to eat them. The values of cleanliness, body care and physical exercise are rarely imbibed or practised by the students. Blind faith and unhealthy traditions are rarely put to experimentation for objective evaluation.

A number of situations can be cited where we lack scientific approach and rational thinking. Hardly any science teacher bothers to help the students in analyzing a situation objectively and in arriving at a conclusion only after experimentation and observation.

The study of Mathematics is helpful in developing the values of mental discipline, reasoning and thinking, generalizing on the on basis of available data and abstracting the varied concrete situations. All such mental and intellectual qualities should be developed by the study of different branches of Mathematics like, Arithmetic, Algebra, Geometry etc. The responsibility of the mathematics teacher lies in inculcating these values among the students while teaching them the solutions of different sums and problems.

Training of Teachers

Value education through content areas requires a new approach towards teaching a subject by the teacher. He should posses the skill and ability to discover the values inherent in the content that he is planning to teach. He should also know the approaches and strategies for imparting these values during the teaching learning process in the classroom. For example, a science teacher needs to be trained in selecting the value inherent in a particular content. He should analyse the value with the help of the students and motivate them to imbibe the spirit of scientific enquiry and rational thinking in different life situations.

Pre-service and in-service education of teachers need to be geared in such a manner that the teachers become conscious of their responsibility of value education through the content of the subject that they teach. Teacher education has to make well planned efforts in this direction. Teacher should have the capability of analysing the content with a view to find out inherent values in it. Later on, they should impart these values by helping the students to understand to evaluate and to react to these values in the background of their own experiences and circumstances. Whatever values they find worth inculcating, they must adapt and apply them in their thoughts and daily actions.

The educational thinkers, teacher educators and teachers have been discussing a lot since long about direct and indirect methods of value education in schools and colleges. However, these attempts have not bore fruits as per their expectations. Now there is an urgent and immediate need to make joint efforts for the successful implementation of devising novel approaches and practical strategies for value education through content areas.

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Alternate Educational Programmes in Tamil Nadu With Special Reference to Pudukkottai District - A Case Study

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Introduction

It is, by this time, unnecessary to stress the inevitable role of Literacy and Education, as a fundamental human right, resort to cultivating good attitude of individual, changing modern society and developing the economy of a nation. As for India, despite, unlimited expansion of formal education institutions and massive investment for the development programme over five decades, the vast majority of the population had not been able to take advantage of that, on the following grounds:

- Contents and mode of delivery have been unsuited to the rural and semi-urban people.
- Unstimulated rural development as it failed to offer vocational requirements; too much formalised institutions with no flexibility.
- The requirement of full-time class room attendance resulted in a high rate of dropouts
- Centralised recruitment of teachers, who have not acquainted with the culture of students Such teachers unable to meet the needs, interest and aspirations of local students which fail to acquire the appropriate knowledge by the rural people.
- Children have been in a position to accompany the parents for their livelihood as they were in poor economic conditions.

Owing to the above, and some other reasons, the formal education system has not been able to meet the educational needs of all sections of people in India. As a result, the number of illiterates has increased from 234 million in 1951 to 352 million in 1991. A vast majority of our people have remained separated from the process of education, of which nearly fifty percent belongs to productive age group The condition of women have still worsen i.e., three out of five woman have been illiterate In rural areas the situation has still worsened where out of every four women, three have been non-literate Though the constitution of India conceived universalisation of elementary education by 1961, by 1991 the country is still away from that target, which have been really a disturbing factor on account of slow pace of the socio-economic development. In this angle, the stress is being laid, viewing the major shortcomings of formal education system on adult, non-formal and extension education programmes as alternative path of education programmes being made relevant to the people's need and interest, thus making it functional.

Development Through Alternate Education

Human Resources have been deemed to be an essential part of all developmental measures. Education is the major element which taps the potential of manpower to make the resources fruitful. Paulo Freire (1972) has pointed out that the oppressed people can rise above their lot through education and that adult education programmes lead to development of social awareness of the individual as well as the community. This view has universal application and is of special significance to India

Coombs, et al. (1975) define informal learning as a life-long learning process, whereby every individual acquires attitudes, values, skills and knowledge from daily experiences and the educative influences and resources in his/her environment, family and neighbours, work and play, form their market place, library and the mass media. Adiseshiah (1981) states that "education is the development of the power for adaptation to an ever-changing social environment".

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The National Policy on Education (CPE 1986) defines education as that which liberates i.e., "Provides the instrument for liberation from ignorance and oppression". Lakshmi (1989) states "A nation is considered as civilised in proportion to the percentage of educated it has".

Adult and Continuing Education is often regarded as a synonym to life-long learning, and as acquiring experience of any sort of intellectual, emotional or sensory motor skills. Adults need to learn to meet the changing demands in their life and occupations. All the tasks they engage in call for learning about new knowledge, new skills and new attitudes at various stages. Such continued learning performed by adults in an informal learning process, develops new interests in learning. Further, infromal learning helps the individuals to satisfy their needs, and achieve their goals for their personal fulfilment (Vidhya et al., 1995). Thus wducation enablse a man to adapt himself to society and making him alert and capable of discharging his duties and responsibilities effectively and efficiently.

The present paper is an endeavour to study at length about the different alternatives education have evinced positive changes among the people of Pudukkottai District, which is one of he smallest district in the state of Tamil Nadu.

Since the Pudukkottai district is easily accessible adjoining Bharathidasan University and the first "Total Literacy Achieved" district and also backward district in Tamil Nadu, it qyalified for the study. The primary data and necessary informations have been collected by the authors, by way of enquiring the beneficiaries, personal observation, open dialogue with different level functionaries and supportive staff of programme, interaction with Panchayat Presidents, Opinion leaders and Scholars. In addition to this, the secondary data have involvement of authors at each and every phase of programmes, referring various reports, journals, newspapers and perusing a few documents relating to Pudukkottai District Profile. Structured interview schedule (based on MNL norm) were also framed to collect the data relating to educational attainment and overall development of people over a period from 1991 to 1996.

Profile of Pudukkottai District

Pudukkottai is one of the smallest districts of the Tamil Nadu State, India, with an area of 4,633 square kilometers and a population of 1.32 million (1991 censure), 85 per cent of which lives in rural areas. About 58 per cent of the population was literate prior to literacy campaign in 1991. The literacy rate was 44.2 per cent for female and 74.9 per cent for male (India - female 39.4 per cent, male 63.9 percent).

The district is divided into two revenue divisions, namely Pudukkottai and Aranthangi and again divided into seven taluks comprising 42 revenue firkas with 765 villages. The district comprising 13 blocks and 2 municipalities with approximately 600 Panchayats and Wards. Agriculture and Agricultural labour are the major occupations of its people and a considerable number of persons are engaged in fisheries. It is interesting to note that a good number of people are engaged in quarry and gem-cutting works after the emergence of TLC.

According to 1991 census, this district has a total population of 13.22 lakhs of which 6.59 lakhs are males an 6.63 lakhs are females. The total number of illiterates was 6.60 lakhs of which the illiterates in the 15-45 age group were estimated to be about two lakhs.

Alternate Educational Programmes

The different alternative educational programmes experimented over the period of time in Pudukkottai District of Tamil Nadu State for the overall development of illiterates, semiliterates/neo-literates, drop-outs in general, weaker sections of the society--women, SC/ST etc. in particular, are presented in succeeding pages of the paper.

Total Literacy Campaign

The literacy movement of Pudukkottai District (Pudukkottai Mavatta Arivozhi Lyakkam) which was launched on July 23, 1991 turned out to be a massive people's movement and it ended on July 31, 1992 and it was declared as first fully literate district in Tamil Nadu in the age group of 9-45 years by the then Governor His Excellency Mr. Bishma Narian Singh on August 11, 1992.

In the Total Literacy Campaign, 2.91 lakh illiterates were identified in the age group 9-45 years out of whom 2.54 lakhs illiterates were enrolled With 30,000 volunteers 3000 master trainers, 200 resource persons and 500 voluntary artists and with the co-operating district administration and the officials of all government departments the TLC was successfully implemented.

Post-Literacy Campaign

The Post-Literacy project was sanctioned during May 92 to cover a target of 2.52 lakh neo-literates. The reporting status during post-literay phase has been very poor. Against the target referred to above only 1.97 lakh learners have been enrolled and 1.10 lakh have been attending PL centres. An exhaustive list of primer, post-literacy books, forms, monthlies, broad sheets, posters, special news papers etc. have been distributed to neo-literates.

To begin with, about one lakh learners were supplied with a post-literacy primer, a story book meant for neo-literates and a work book each. Libraries were established in all the panchayats So far 30 books have been supplied to each library by the District PLC. In a book collection drive conducted by the literacy campaign, more number of books have been procured from the general public of the district for keeping in the rural libraries.

Health for all Campaign

The literacy can never be insulated from health aspect. So, a health for all campaign have been launchedwith the financial assistance from the DANIDA, Health Care Project. One Primary Health Centre in each block has been selected for this campaign. Kala Jatha programmes have been conducted through out the district in creating health consciousness among the people. Two volunteers chosen from each hamlet have been given training in preventive health care, and the trained health volunteers are now conducting health meetings in the hamlets spreading health messages. Nearly 1000 copies of 15 booklets published by the Bharat Gyan Vigyan Samithi on relevant topics have been supplied to the PL-circles The neo-literates, semi-literates, school children and general public have been making use of these books through visiting the circle.

Anti-Arrack Movement

Another important task taken by the literacy movement is Anti-Arrack Movement which has been spreading its message through processions, rallies, public meetings, posters, pamphlets, songs, dramas, etc. It is noteworthy that women volunteers of the literacy movement have taken active part in this campaign.

Legal Literacy Campaign

One of the important items of alternative education programme is Legal Literacy which focused on laws relating to women in the areas of dowry, property, wages, rape, bigamy, etc. These are being made known to the neo-literate women and they have been enlightened on these subjects. Ten neo-literate books on legal matters have been supplied to all the libraries in the panchayats. Apart from publication of books, training camps have been conducted to instruct the voluntary instructors on matters related to law.

Gander Equality campaign

In order to educateou the gender equality and importance of women a massive campaign was organised in the district. Nearly twelve teams of Kala Jatha troupes have been performing street plays, literacy songs and skitts on gender equality in different parts of the district.

Leadership Training for Women

Education and empowerment of women are two important issues in this district which enable the women to achieve socio-economic independency. In collaboration with Indian Bank, leadership training have been organised in different parts of the district. Nearly, 75% of neo-literates, semi-literates and also literate women of selected blocks of the district have been given training on quarry, gem cutting, health education, legal literacy, small saving, etc. with the collaboration of DWCRA, DANIDA, Judicial Department, Nationalised Banks and some other voluntary agencies.

Groups Saving Cultivation

With a view to cultivate the saving habit among rural women, group saving have been organised in most of the villages of the district. The resource persons, from MYRADA, Hosur have given effective training to the rural women. More than 100 groups are now functioning in the district, particularly in Arimalam and Thirumayam Blocks.

Universalisation of Elementary Education (UEE)

As eradication of illiteracy is a continuous process, it is imperative to sustain the success of the literacy campaign through stopping the pouring in of new illiterates. The following steps have been taken to strengthen the primary education system.

- Teachers meetings at block level
- District level training camp at Kudimianmalai
- District level training camp at Pudukkottai
- Block level motivational camps
- A pilot project at Thiruvanankulam block

Land Literacy Prgramme

Under this programme availabilities of resources like water, the type of soil and crop pattern and the socio-economic status of the villagers are asertained. This programme is going on at Manganur Panchayat in Gandarvakootai Block.

Results of the Study

The data analysis utilising appropriate statistical tools, have brought to the light the facts/informations relating to socio-economic and cultural settings, literacy achievement, perception towards various health and social issues, changing the life style of the partners of the district.

Majority of the respondents belong to young and middle age groups. The data on marital status of the respondents show that two thirds (69.33%) are married and the remaining one third (30.67%) are unmarried. The data on caste structure show that majority of the respondents (44%) belong to MBC, followed by (42%) SC; 14% belong to other caste groups. Majority of the respondents (62%) come under the nuclear family structure and the rest. As per the data 82.3% respondents live in hut/thatched house and the remaining 17% live in tiled/concrete houses. Nearly half the respondents (51.7%) have property/assets worth below Rs. 15,001; 34% possess property worth between Rs. 15,000/- and Rs. 30,000/- and the rest (14.3%) have assets worth more than Rs. 30,000/-. The family income shows that 43% earn the annual income below Rs. 11,001; 33% persons family income ranges between Rs. 11,001 - 29,000; the rest earn above Rs. 21,000. The analysis revals that 34% respondents have no issues, 53% have children between 1-3 and the rest have more than three; which shows that a considerable number of the respondents are aware or the small family norm. More than two-third of the respondents parent/husband have the capacity to read and write. The survey reveals that majority (76%) of the

respondents are enjoying mass media exposure viz. listening to radio, viewing television and enjoying movie.

The younger age groups show more interest in pursuing the literacy and post-literacy programmes. Their attitude towards the literacy and post-literacy is favourable when compared to thatof the elder age group. It is heartening to note that there is no differences in the attitude and achievement of learners of both married and unmarried, but regarding the arithmatic skill the difference exists between the two groups. It is interesting to note that the MBC learners have attained well in literacy (3 R's) when compared to other caste group. It shows that the planner and administrator should focus their special attention to poor, oppressed and under privileged section especially SC; The provision of physical facilities in establishing a pleasant atmosphere to be concentrated more. "As a result of the different campaigns, the ratio of literates in the population rose from 50% in 1991 to 65% by August 1992 The effective literacy rate, as the ratio of literates to the population in the seven and above age group, rose from 5.8% to around 77% over the same period. An extrapolation for the 9 -45 age group gives us a figure of 85% literacy rate in the age group by August, 1992.

Immediately on completion of TLC Phase, the PLC Phase was launched with the aim of remediation of learning deficiencies, covering the left out illiterates of the TLC phase, strengthen and consolidate on literacy skills of neo-literates, linking learning to application and literacy to develop, making the development awareness, leadership quality through linking with various income generating programme. Accordingly, the response has been quite alarming--nearly 1,03,000 neo-literates attending the PLC Programmes. It is interesting to note that women learners excel their counterparts in 3 R's. It is remarkable to note that the minorities, Muslims, Kuravas, Fishermen, etc. participation is more encouraging. The Education programmes indeed empowered women in various walks of life A considerable number of women have learned cycling which curtailed dependency.

"Vasantha of lambalakudy in Thirumayam block is one of the leaders of the newly formed quarry groups. She says, "By learning to cycle, I have broken many barriers - the gender barrier, the age barrier, the caste barrier". It was unheard of for a woman from a poor scheduled caste labourer's family like mine to even touch a cycle, let alone ride past them on my bicycle. Kamala comes from a somewhat affluent, and cycling which gave her confidence.

"I learnt that women can do anything if they are determined I learnt cycling at 38. My husband is the ex-panchayat president of the village but what gave me confidence and a better self-image was my ability to learn a new skill and be mobile and independent". (Arthreya, and Chunkath, 1996, p.220, 221).

Prior to the Total Literacy Phase, quarring was controlled by a few contractors who exploited a captive rural labour-force to make profit. Through literacy phase, training on quarrying, gem cutting give much confidence towards facing the life and reducing dependency. The district has 520 quarries which provide employment opportunities under the aegeis of DWCRA. Women learners have been taken up contract and they organise group in of 20 each worked in quarry registering under Tamil Nadu Societies Registration Act 1997. Sujatha (1994) has studied that the lives of the DWCRA women - that the beneficiaries have undergone a radical change when viewed in terms of their social, cultural and economic muilieu. Their wages had increased five fold from a paltry sum of Rs. 6/- to Rs. 30/- per day. Consequent to the general improvement in the economic condition, the standard of life improved. Their general health showed improvement with the intake of nutritious food.

As per the records of primary health centres the number of registration of immunising children has gone up to nearly 95%. Nearly 80 per cent women have adopted small family norms. The participation of women learners in government welfare programmes has increased to an optimum level. The participation of women in Panchayati Raj System in the District has also gone upto the mark of government regulations. The distillation of illicit liquor and habit of alcoholism among the male has been largely controlled through the anti-arrac campaign. The awareness among the learners on various social issues have increased tremendously. The neo-literates have started to cultivate the habit of reading the story books, newspapers, post-literacy materials available in Rural Libraries established in selected villages.

Short Comings

- The movement has to go a long way in mobilising the neo-literates to post-literacy classes. As against the expected coverage of 2.91 lakh learners only 1.97 lakh learners have been enrolled so far in the PLC. Steps have to be taken to enroll the drop-outs and the left-out learners.
- Libraries established in every panchayat have an average of 30 books It is far short of the planned target of 500 books each. Steps have to be initiated to strengthen the libraries quantitatively and qualitatively.
- The health campaign in PLC is half way through. A primary health centre area in each block has been selected and the preventive and promotive aspects of health, mother and child care and family welfare messages have been disseminated among the learners and the public. To strengthen this campaign additional support - audio-visual and film media are needed.
- The campaign for universalisation of Elementary Education also requires further activities to boost the spirit of the volunteers involved in it - as it is essential to sustain the literacy status of the district the flow of new illiterates should be arrested. A lot of activities have to be undertaken to improve the school atmosphere, teacher motivation, curriculum changes and the involvement of the parents and the public.
- More skill development training for developing income generating occupation among the learners and volunteer has to be conducted. The progress on this regard is not up to the mark.

Conclusion

Education is a process which brings desirable changes in the human minds. Alternate Education is a process which means apart from formal education system, all other education system provided to the deprived society out of campus. This can be provided through various communication channels. It is imperative to concentrate on both primary education and different alternate education programmes - both are inter connected – primary education alone does not provide the expected result, if the parents are under illiteracy category. To achieve 100% literacy in the context of Education For All (EFA) it is essential to eliminate the draw backs in all education programmes for strengthening the education programmes which ultimately leads to total development of a nation.

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Impact of Education on Value Systems

wor Hira Aher[1]

Education in Free India

At the end of 50 years of independent society, if we try to take a stock of developments in various physical areas like industry, new technology, increased production, large scale construction, agriculture, medical services and various related fields alongwith recently changed economic policies inviting MNCs in India, we find that Indian society is definitely marching forward, though with a moderate pace, due to insurmountable increase in population. Living standards has increased, life expectancy has increased and death rate has decreased. With various experiments, education system has also changed. Expenditure of the parents on the education of children has also increased. Professionally trained manpower has been generated. Everything is good, if not fine. But where is the man ? Do the rich, educated, employed and alike feel happy, safe, secure in the present social, economic and political system operating in the society, leave aside those who are not privileged to be economically better.

All our educational experiments intend to widen the horizons of worldly knowledge, by adding more and more inputs of study. Education has made mankind materially rich but has made human being poorer because in the process of development oriented education, training in value discipline has been lost sight of. Education in India, therefore, needs to be looked from an angle to enrich a person in latest worldly knowledge with human values as the base of education for meaningful, constructive and socially useful existence.

Value Defined

Value is the base of meaningful human life. It is defined as one's principles or standards, one's judgements of what is valuable or important in life. Human being is a constituent of social group and everyone is interdependent. While performing in a social group one has to adopt certain norms of behaviour which would create an atmosphere of attainment of his objectives in line with group objectives. These principles, standards or norms of behaviour has to be judged not from one's perceptions but from the perceptions evolved in course of time in the larger interest of the group. Group dynamics play a very important role in the smooth functioning of the group as a whole. The basic minimum norms form the core discipline of behaviour. In the same way, there are certain basic norms of human behaviour which help human beings to avoid conflicts, war, violence, corruption, exploitation, misuse of power and positions. Behaviour is the way of conducting one self. It is expressed through interaction among the members of society. Human behaviour is influenced by parental influence, education, social environment, cultural heritage, psychological needs, security needs, social needs, economic needs, ego needs, etc.

Evolution of Values

Values reflect basic convictions that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence. Values contain an element of judgement in which they reflect person's ideas about right, good or desirable. Every value has content and intensity attributes. Content attribute says that a particular value based mode of conduct is important and at the same time intensity attribute connotes how important that conduct is.

In the context of Indian society, it is the religion which has played a dominant role in setting values which over a time have formed the part of our culture. Values are dominantly impressionable in the early life of a man at home and school. He is taught directly and indirectly to make distinction between right and wrong. The right and wrong of any action, behaviour or expression is already set for him by his parents and teachers. They set these distinctions on the basis of their cultural background,

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scriptures, lives and works of great men, etc. When a man grows up, he is exposed to other value-systems, which may not be the same that are learnt by him in his early age, due to changing social, economic, political and other systems. Interestingly, values are relatively stable as they have been imbibed in early years of age.

Causes and Effect

In a fast changing society due to powerful materialistic influences on life, revolution brought out by science and technology and hunger for power, we find that eternal human values like freedom, justice, peace, dignity of human being, sacrifice, brotherhood, duty consciousness, worship of work, non-violence, peaceful coexistence, etc. have been eroded rapidly Penultimate mistrust, injustice, exploitation, selfishness, hatred due to caste, creed, race and religion, chauvinist, nationalism, lust for positions, property and power are presently wrecking the society. Total social fibre is cracking. The world is divided into the poor and the rich, powerful and powerless, exploited and exploiters, criminals and law fearing, high caste and low caste and so on .

Surprisingly, value adoring humble people are thrown out in a race by the fast growing valueless individuals, groups, communities and even nations. Another change that is observed at the end of this century that people or groups who still cherish value-based conduct or behaviour are thrown in oblivion. New generation is rapidly loosing faith in the values which are considered, throughout ages, necessary for self-attainment, meaningful life, peaceful existence and development or progress through mutual cooperation. For immediate gains, material pleasures and individual greed, all human values are sacrificed without a smallest scar on the consciousness of man. In other words, the society, at the end of the century, is entering jungle law by adopting the newly established value-system, i.e., survival of the fittest. With political instability, social insecurity and economic uncertainty at the end of this century, what we see is the development of mental slums in various sections of the society

Education as Vehicle of Change

On this backdrop we have only one powerful vehicle to look at. This is education. Education is the most powerful media creating lasting impressions on the developing thought process among the children and adolescents. Unfortunately, education system being operated in our schools and colleges is becoming dysfunctional and counter-productive. At this stage, it is worth mentioning that Madhavrao Scindia, while holding a portfolio of Human Resource.

Development of Government of India, during his address to the functionaries in schools, college and universities had brought out a very important point. He said, "it is all right that you criticize the politicians, bureaucrats and other functionaries in the Government. Well, it is fine But what constructive steps you, as educationists are taking to bring improvement, except some seminars, letters to the newspaper editors and a representation to the Governor ? Will this bring any change in the value-system or the present order. Please look at us and tell us what has made us bad if at all we are bad Please do not forget that we are the end-product of a system which you have been creating and it is being operated by you. This won't bring any change. I appeal to you all educationists and erudite scholars to examine present education system, change it with conviction of values. And this will bring out a changed generation. This will be a revolution". This statement is an eye opener to all of us.

Challenge before Educationists

Now it has become necessary to change the objectives and content of education at all levels right from pre-primary to university, giving due weightage to value systems. India's rich heritage, with vast canvas of knowledge and enlightenment and philosophy of values have been relegated to the backseat and materialistic desire based behaviour pattern has taken drivers seat. This order needs to be reversed In a changed context of scientific and technological advancements, entire system of education needs to be redefined, reorganized, reshaped and recharged. Now at the threshold of the new millennium, it is a challenge before educationists to draw a program to prepare a student to understand, adopt and adhere to values for rich, satisfactory and meaningful individual and social life. Mere worldly knowledge will make

his mind rich, but soul will remain poor. We, therefore, have to plan for making full man. This becomes more essential in the era of liberalization with additional dimension of human rights.

Now India needs second revolution, a revolution of values and education has to be the vehicle of this revolution.

Economics of Indian Education
The Emerging Policies

Tapas Majumdar[1]

When one looks at the various assessments that are now available of the management of India's education sector over the five decades after Independence, what would usually emerge is broadly the following:

(a) India's national education policies typically tended to correspond more to the pattern of a unitary form of government than a federal one. This has been a big hindrance not merely because the Indian Union is federal, but particularly because an education policy in a multi-cultural nation, to have any chance of success, has to be oriented to concerns that are clearly perceived at and formatted for, the local level, even when these are not necessarily only local concerns.

(b) The local does not necessarily mean the state level because many Indian states themselves have distinct multicultural, multilingual and multiethnic populations separated out in different clusters.

(c) For the full implementations of the Directive Principle of State Policy under Article 45 of the Constitution the extension of the federal structure to the district levels through the 73rd and 74th Amendments should be helpful, but India's great linguistic and cultural variety, also protected under the fundamental rights guaranteed under the Constitution, would remain a big challenge for the Centre as well as the individual states.

(d) What can be described as the dominant public sector mode which gives government (at every level), a paternalistic role, also stifles popular enthusiasm.

(e) However, wherever public action in favour of both the education policy, and its supportive social policies have been assertive, as in Kerala, there has been remarkable success. This phenomenon has been quite independent of the ideological orientation of the ruling state government. For example, there has been success in Kerala irrespective of whether a Congress -led Coalition or a communist-led Left Front had been in power in the state.

(f) Finally, one finds that the trifurcating or even further fracturing the concept of education into primary, secondary, tertiary etc. or, more specifically, putting all the stress on the expansion of elementary education, particularly of the conventional kind, even to the extent of freezing the economic resources needed for scientific and technical education, higher education and research can be dramatically counterproductive. It is my conjecture that Kerala's magnificent record shown in terms of the social sector indicators that puts it at per with any of the newly industrialising economies of Aisa (the so-called Asian Tigers), failed to place the state on the fast track of economic growth. This could be because Kerala did not want to, or did not know how to prepare its education system from the elementary level upwards for the high-technology era that was round the corner. Moreover, it paid inadequate attention to, or even disdainful of, the role of higher education in preparing the masses for facing the tasks of the coming century.

The technical (and psychological) preparation for moving on to the path of rapid industrialisation might have been within the reach of Kerala if it did not underestimate the power of modern technology-oriented education, and did use economic resources and divert public action strategies towards that end, just as it had done so commendably and successfully for the universalisation of literacy and elementary education of the conventional kind.

What kind of literacy for the future?

It is hardly necessary to argue today that conventional literacy has to be strengthened by a dose of computer literacy for every citizen of the future in order that even people left with only elementary

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education do not feel lost, whether as consumers or as producers, in the twenty-first century. But then again, what kind of computer literacy could we really afford that would empower or increase the productivity of all, and not just the well-endowed few?

To answer this question, the makers of our education policies must be willing and able to check the economic efficiency and the equity criteria of the different alternative investment packages offering computer literacy that are likely to be available at different costs.

Literacy, being the entry point of learning to live, can be defined in different ways for different levels of participation in the modern high technology society. In considering what would be the most appropriate type of literacy for the twenty-first century one would not necessarily be concerned with only one aspect of it that had been postulated by Schultz and Becker - the one that was supposed to enhance that productive efficiency of man. The new century's person in the street", it may be argued, would be equally concerned with the type of literacy that enhanced one's quality of life, by making one not only a better producer but also a more informed consumer. The two types of concern might need two different types of computer literacy: one for using the personal computer for carrying on the business of life more profitably, and the other for learning - learning all kinds of things, science, philosophy, mathematics and languages - through a computer system.

But types of computer literacy, one found, needed a prerequisite which is basic familiarity with handling various computer-using consumer gadgets, if not computers themselves. The prerequisite itself should require very little cost for its universalisation. But beyond it most people of the future India would deserve to be given either of the two types of computer literacy usually, but not necessarily, as alternatives, and providing either would be costly.

The kind of computer literacy that implied the ownership of a personal computer in, for example, the professional careers of high-quality manpower would be very necessary for society but also highly rewarding privately. No country in the world, barring the most prosperous ones, could possibly afford personal computers on a universal scale. This kind of computer literacy, therefore, was essentially elitist for the third world countries.

The other kind one needed for learning through large computer systems to get all or most of the benefits of universities, colleges and schools. It was more equitable and affordable. In fact, it would be broadly like spending on general education as we know it now, needing both private and public investments and subsidies.

Unfortunately, whenever we have to go for any large-scale introduction of the computers and computer education into our education systems, we find ourselves to be choosing implicitly and unthinkingly only systems that would further empower the few, rather than those that could possibly help a much broader, though usually less visible spectrum of society. The state has a clear role in this since either kind of choice would usually imply fairly large public subsidies. We would need to know what the public choice that is made would mean in terms of social costs and benefits. The economists, I believe, have a duty here that remains unperformed, because these relative costs and benefits to one's knowledge, have not been counted whether for India or for any other country.

Knowledge Workers and Service Workers

Some futurologists predict that the next century is going to be good for education but bad for mankind. By this they mean that the concept of an integrated nation might increasingly come under a question mark in all parts of the world. And the way our children are educated in the oncoming technological era may decide how that question is going to be answered.

Futurologists are not astrologers. They base their projections on extrapolations of present trends observed by social and natural scientists of many disciplines. Although many of their projections can be highly imaginative, one has to take them seriously even though one knows that the scenario projected is but one limb of the big probability tree.

Management Guru and futurologist Peter Drucker has given us a classification of work that is now widely used. The global workforce, as Drucker sees it, is in the process of breaking up into two widely diverging employment categories : knowledge workers and service workers.

Knowledge workers are those who have been successfully trained to reach the higher levels of proficiency in some or other branch of knowledge--intellectual or applied. They are destined to constitute

the intellectual, cultural and business elite of every country in the modern era. This way the 'human capitalists" would make the major additions to the stock of wealthy people in this era.

The more modestly endowed service workers constitute the rest of the world's workforce. They will be trained adequately, but not more than adequately, to perform their allotted tasks well In tomorrow's high technology society there will be need for education for all. But only the most gifted or the most favoured will qualify to move up to higher and higher levels.

Some futurologists predict that the knowledge workers will be swiftly globalized for soon they would be welcome in most countries, their incomes being fixed in the world market. And the service workers, who will remain localised, will also have their low wages fixed globally, for typically the globalized industries would be free to locate their processes anywhere in the globe--a dubious advantage, perhaps, for the third world countries.

They predict also that the knowledge workers and the service workers will keep on growing into two different parts of humanity. And once the high-tech society in a country gets going its basic divisiveness, it will destroy social life, as it exists today and has existed for many generations under capitalism, unless that divisiveness is recognised early for what it is and nipped in the bud.

There is a popular belief that education reduces economic inequalities in society. Unfortunately, apart form partially neutralising the inherited wealth of mediocre people, the education system is invariably organised to do just the opposite of reducing intellectual and economic inequalities. As to how exactly to nip in the bud the basic divisiveness that is bound to be produced in society by the policy of providing education for all, but reserving higher education for only about five per cent of the relevant age group (when the rest of the civilized world is planning to send over 50 per cent to college), I must confess at least the economist can produce no credible answer.

New Concepts and Methodologies for Innovative Interaction

N. Ramachandran[1]

Introduction

Before the onset of global competition, the advancement of technology in the institutions through Research and Development was able to cope with the advances industries were making. Exceptions were there even in those days in the case of large industries and businesses.

The University - institutions structures were also simple. In the recent decades there has been a significant increase in the number of universities and institutions.

Year	Status of Universities/Colleges	Total
1947	Universities	19
	Colleges	636
	Students	2.56 lakhs
1997	Universities	223
	Colleges	8500
	Students	55 lakhs

Correspondingly there has been a rise in the number of governing bodies. During this period, because of global competition, the industries grew in size and in the complexity of their operations.

The market conditions forced the industries to have their R&D set up. Technology advancement in the industries registered a phenomenal growth through their own efforts. It has, in this background, become essential to review the effectiveness of the current level of interactions between Institution and AICTE, AICTE and Industry, Industry and Institution, Institution and University, and University and Industry.

Realities to which the Institutions have to Awaken

Businesses and industries have been going through radical transformation. Sweeping changes have taken place in the industrial scenario in terms of speed in delivery, innovative product spectrum, continuous focus on customer delight, meeting the social obligations, total quality management- way ahead of product quality hitherto considered in isolation, awareness of the obligation to environment enrichment and so on. Institutions that confine themselves to the clutches of stagnant syllabi losing contact with the rapidly advancing industries, and not associating themselves with the society which is their ultimate customer will have no status in the public eye. Progressive institutions like ours have started evolving holistic approach models for expanded activities in line with the examples in the advanced countries. One such model through association with Canadian institutions tailored to our environment is shown in the figure.

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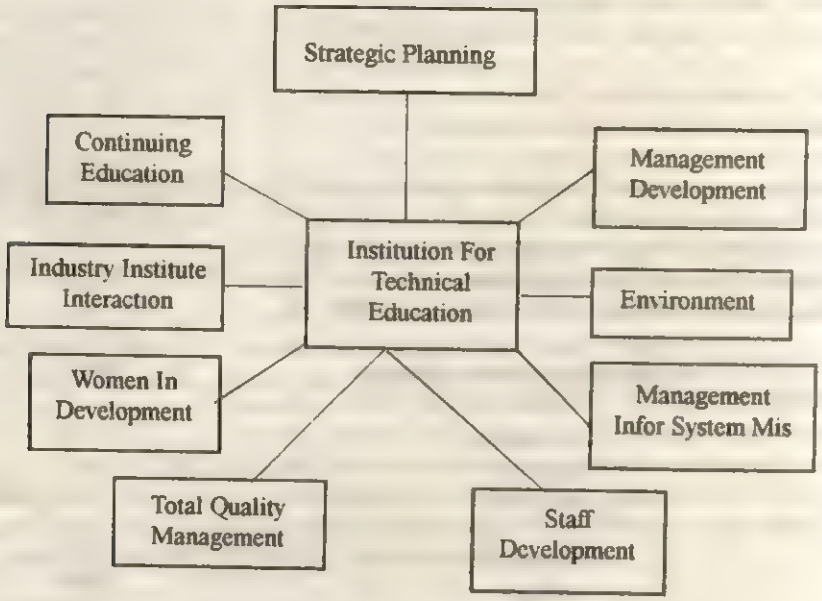

HOLISTIC APPROACH
Periyar Maniammai ollege of Technology For Women

From the synergy effects aimed at through our model, it would be obvious what important role, industry-institute interaction component coupled with strategic planning and staff development can play. A review of present practices of interactions among various bodies and agencies and suggested ones are considered in the subsequent paragraphs.

AICTE - Institution Interaction

If an honest stock taking of the present form of AICTE Institution interaction is considered, it would be found to be one that is formally-based and to-the-point. Such a guarded approach has to be replaced with a cordial relationship in a sprit of spontaneity. Why not consider assigning one AICTE official whose sole responsibility would be to co-ordinate with ten institutions in spirit of co-operation? This will certainly enable each institution to correspond and interact with the AICTE official, thereby resulting in a better rapport between the two. Again, such an interaction should not be a one-way communication. Stereotyped impersonal transactions in an atmosphere of traditional statutory authority discussing with an air of superiority cannot have a place in such a relationship.

To achieve this, the AICTE officials should be well trained in the global trends and advancing industrial and business processes. The official should not only employ modern concepts of quality

management such as seven basic tools of statistical quality control, but should also be innovative enough to find ways and means of gainfully employing value engineering, business process reengineering, benchmarking techniques. At the same time, the members of the teaching faculty of the institutions should also be trained in these areas.

AICTE - Industry Interaction

Co-operation with industry has to include not only the institutions but also should expand to include AICTE. At present, most of the activities of leading bodies of trade, commerce, industry and business, such as Association of Chamber of Commerce and Industry of India (ASSOCHAM), Confederation of Indian Industry, etc. appear to concentrate on associating and interacting only with government and statutory bodies. It would be to mutual advantage, if AICTE would forge alliance with these bodies. This will help building up contacts with individual industries and businesses which could enable technological tie-ups and project Cooperation. One suggestion to form part of the Cooperation outlined above is to institute a national level competitive examination to be conducted in combination by AICTE and different regions of CII. Such an examination should be of high quality, comparable to that of GATE, CSIR, UGC, etc. Industries and businesses in the private and public sectors should give preference to the professional graduates who score high in such an examination besides ensuring the other usual selection criteria they adopt for recruitment. Spotting the talent in the right way becomes possible through this process where the capability of the individual is recognised against the present bias towards the status of the institution through which the candidate graduated.

Industry - Institute Interaction

Some Avenues for Contribution by Institutions

- Small scale industries (SSIs) as an example contribute significantly toward the national progress when they are engaged in producing articles/goods as ancillaries to major producers. Institutions can keep codes and standards for use by industries in the neighbourhood. They can also help the industries in interpretation and application.
- Industrialists and entrepreneurs, especially those in the SSIs can benefit from the assistance institutions can extend in the area of interacting with the government departments, financial institutions and statutory authorities.
- There are times during the execution of contracts when differences may arise between parties to a contract. Provision is also normally built in the contract to resort to arbitration before having recourse to legal proceedings. Institutions can spare the experienced faculty members to serve as arbitrators.
- Some institutions like ours have the advantage of branches of studies incorporating financial and business management disciplines. Industries, especially SSIs can benefit from their advice on the right choice in investment and operation decisions on outright purchase, hire-purchase, leasing or renting costly equipment, tools and tackles etc. Senior faculty members of the institutions especially those with some experience in industry can review major contract clauses when an industry or a business enters into agreement relating to supply, works services, etc.
- Many institutions have the necessary expertise when businesses intend to jointly work for establishing software parks. In fact, this is a typical area where software industries can co-operate with institutions, especially, if project funding is made available through some grants.

Some Avenues for Contributions by Industries

- Industries have many technical professionals with experience, expertise on individual subjects, higher academic qualifications and in teaching Post-Graduate technical students.

They can suitably plan systematic recording of case studies which can be of use to the institutions.

- Towards mutual benefit, industry and businesses who can definitely afford better than institutions can sponsor the doctoral works of capable teaching staff.
- Teaching staff will have an enriched practical knowledge with updation of current industrial expertise. Big business houses and industries can accommodate teaching staff in their pay rolls for at least two months from time to time.
- Industry can spare the services of their technical executives to the institutions, whose association will help the teaching staff and students to acquire knowledge on the state-of-the-art technology of the industry and to gain practical orientation, especially, through project works.
- Large industrial and business houses can create corporate funds to promote technical education.
- Presently establishment and operations of Science and Technology parks are based solely on the interaction between institutions and the department of Science and Technology Collaboration and active participation by industries will give new orientation to this effort.

Institution-University-Industry Interaction

University-Institution-Industry-Interaction Cell

Under the jurisdiction of each University there will be a number of institutions with many branches of studies. In one way or other, each of these institutions are themselves associating with industry and business. Formation of a body such as university-Institution-Industry-Interaction cell would be advantageous in many ways such as:

i. Avoiding duplication of R&D facilities.
ii. Sharing the resource available with the industry, business, university and institutions, especially, those in the same region.
iii. Training teaching and non-teaching staff, students, industrial and business executives and supervisors through suitable collaboration.
iv. Short-term refresher courses for working personnel in business, with the assistance of the institutions. This will also enable staff development for institutions besides providing trained work force for the industry and business.
v. Through Memorandum of Understanding (MOU) for tie-ups with a view to achieving excellence in (a) type of courses to be offered, (b) syllabus to be formed for the above, (c) preparation of text books and reference books, (d) provision of R&D facilities, (e) offering continuing education, (f) participation in the management bodies of the institutions and university, (g) jointly conducting examination and evaluation.

Doctorate Degrees-Role of the Industry/Business

The proportion of Doctorate degree holders in the country to the total number of technically qualified persons with Bachelor's and Master's degree is meager. Institutions alone striving hard to increase this proportion may not be practical. Industries should volunteer to fund such efforts since they, too, can enjoy the benefits.

Technology/Science Parks

Technology/Science parks are becoming increasingly popular in many advanced countries. U.S., Germany, Japan are the foremost among them. These parks are attached to Science and Technology Universities. They have effected technology transfer in the most effective manner. Usually, they are industrial complexes located close to some place of technical learning like university, engineering college, high level polytechnic or a research laboratory. Formal operational links are established between the two.

In the article 'Technology Park and Its Relevance to India' in the Indian Journal to Technical Education, Mr. B.M. Naik points out that it is the Department of Science and Technology that initiated a scheme of Science and Technology Park (STEP). One such example was the effort to establish STEP-TREC, an industrial park, near the Regional Engineering College, Trichirappalli The good start made by it was somewhat affected in the course of its operation after a period, when funds were no longer coming forth. This stifled the rate of growth of the well conceived industrial complex. In this region, where there are a number of well-established technical institutions, no technology park came up any further. If the industry of the nation were to be termed 'dynamic', there should be one or two technology parks in each state. The states intending to accelerate the growth of the industrialisation should speed up the establishment of these parks.

Today, self-financing colleges like ours are having the necessary expertise and are also willing to have tie-up arrangement in case technology parks can be developed in their neighbourhood. The industries in the vicinity should also cooperate to make the joint effort a success. The true success of a collaboration of this nature lies in the flow of funding from state and central agencies, failing which further growth may not be sustainable.

Benchmarking and Business Process Reengineering

Innovative interaction is likely to remain incomplete if the bodies involved do not cooperate through benchmarking and enhance their potentials and performance Between institutions, benchmarking activities should reflect a collective effort and mark a spirit of voluntarism, transparency, trust and continuity. The same can be extended to benchmarking among universities There may be a hesitation on the grounds of diversity among the bodies taking up comparative studies. Yet, there are at least a few common features for comparison. In fact, educational bodies can even go in for interaction with industries and business where some potentials can be found to exist for comparison, e.g. administration, human resources development, financial management, etc. Unlike industries where things of proprietary nature abound, prohibiting disclosure of many data, benchmarking among educational bodies are free from such barriers. As a matter of fact, there are instances where industries and businesses engaged in the sale of identical products or services willingly undertake collaborative benchmarking, especially when threatened by foreign competition and unpreventable dumping. Another important exercise each institution, educational body, or industry should undertake is business process reengineering. Industries and businesses have realised that radical redesign of the processes and rethinking as a concept are a must for survival amidst global competition. Service providers like banking, railways, insurance, telecom and so on, no matter whether they are in the private or public sector, have taken recourse to this technique. Universities and institutions are yet to reengineer their operations, while those in the west are said to have made rapid advances. In their administrative practices, resource management, campus facilities, extra services, co-curricular activities, the institutions can redesign in many ways taking advantage of the advances in the information technology. The redesign of the syllabus by the university should offer great flexibility through multifarious options such that the student can choose from many options suited to different kinds of the current needs The degree of some branches of engineering such as medical electronics or a mechanical engineering graduate can learn metallurgy, mining, automobile or chemical engineering to suit the market demand for specific skills.

Conclusion

In the foregoing paragraphs, several facets of innovative interactions were considered and a few suggestions have been made Besides these recommendations, it is worth considering some of the anomalies that already exist.

Taking, for instance, the allocation of funds for institution for various projects, the variation is too wide. It is, indeed, understandable that all institutions cannot be granted equal funds or the same number of projects. At the same time, a few selected institutions alone being repeatedly allotted an unduly high proportion of funds and projects affect others. For example, IITs RECs and so on are again and again favourably treated under the plea that they posses better infrastructure. However, there are a number of self-financing institutions, too, with necessary infrastructure. They are to be considered on their merits,

without overlooking them as a matter of routine. An additional advantage will be that overflowing of projects beyond the schedule in the case of institutions being regularly overloaded can be eliminated. This will help equitable development of infrastructure of the self-financing technical colleges and promote their R&D capabilities. It is to be noted that institutions have now days started seriously catching up with industries in getting ISO 9000 series certification and adopting Total Quality Management (TQM) way of life. Only through the top level commitment, this has become possible for these institutions. That the apex councils of the Quality management bodies of these institutions alone are committed to the cause of quality, is not enough.

If quality were to permeate through all cross-sections of the entire academic network of technical and other institutions, the lead should come from AICTE, universities and other state level agencies by having their quality policies, mission and vision statements, documentation and records, and also their quality circles movement.

The Role of Collaborative, Flexible Learning in the Provision of Business Education in Developing Countries

Michael (Mick) Andrew[1]
Gesa Walker[2]

Introduction

There is a need for collaboration in the provision of business education in developing countries. If developing countries are to take their rightful place in the business world and to develop their economies, assistance from developed countries is necessary, but the assistance must be in the form of collaborative partnerships and not in the form of paternalistic provision that suggests that the developed countries have all the answers and that developing countries must merely accept what the developed countries have to offer them. Development requires ownership of developmental projects by the developing countries themselves. This is true also of the business education programmes offered in developing countries. Whereas developing countries may not yet have all the expertise to offer their own business education programmes that will allow their students and graduates to take their places in the global business environment, there is no point in education and training that does not take into account the specific needs of their developing economies. The 'brain drain', which results in the developing countries losing graduates who have received international qualifications that are not applicable to conditions in their own countries, merely exacerbates the problems of developing countries.

Problems of Educational Provision in Developing Countries

The comparative isolation of developing countries. Most developing countries suffer from some form of isolation, whether it be geographic, economic, cultural, educational, technological, or political. Isolation from information necessary for development is a major contributor to continuing poverty and hardship in underdeveloped societies, especially in the business field.

Disadvantaged communities. Isolation, poverty, and social hardship create disadvantaged communities unable to access educational opportunities. Referring to education in Zimbabwe, Zindi and Aucon (1995) mention 'educational systems ... characterised by the disparity between the educational provisions for whites and those for blacks, with the former group enjoying privileged and better educational opportunities than the latter group'. Whether, as in post-colonial Africa, this shows itself in the great differences between the privileged rich and the underprivileged poor, or, as in Third World subsistence economies, in general poverty and low levels of living and productivity, the problem of an unskilled work force places urgent demands on educational provision.

Economic problems of educational provision. John (1996) states that 'the economic decline in Africa has forced respective governments to provide less expenditure for education than before, and with even greater numbers to cater for'. UNESCO (1994) (as quoted by John (1996)) shows that 'between 1980 and 1992, the public annual expenditure per inhabitant on education in Africa (excluding the Arab states) dropped from US$42 to US$28, whereas it rose in Europe from US$336 to US$593 during the same period'. Most developing countries cannot afford to provide quality education for their peoples. Because of the increase in demand, which is caused both by the population explosion and by high expectations of tertiary education provision in developing and developed countries, it is likely that this per capita expenditure on education in developing countries will decrease further. Zindi and Aucon (1995) put the problem succinctly: 'In many African countries competing social needs such as health, food, transport and education pose a great problem for those governments with limited resources.'

Expense of full-time and part-time educational provision. With this increase in demand for educational provision and the conflicting decrease in available resources, there is the need for an alternative to the conventional forms of educational provision. The traditional provision through full-time

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residential class provision or even through part-time class provision is too expensive for the budgets of most developing countries. An interesting perspective is given by Thorpe (1995) on the reasons for the 'expansion of Open and Distance Learning over the last decade: she states that it 'represents not so much the triumph of ideologies of open access, more the impact of market forces and government policies, heightened by recessionary conditions'. The problem of the expense of conventional, formal education has to be faced by both developed and developing countries.

The problems relating to theoretical, content-based learning. The obvious alternative form of educational provision would be distance education. The problem with much distance education is, however, that it seems to favour theoretical, content-based learning rather than practical, work-based learning. Especially in developing countries with their economic problems, it is comparatively easy to limit distance education to correspondence courses in which learners are expected to regurgitate content and they are not expected to demonstrate any practical or problem-solving skills.

A South African Example

South Africa is one of the more developed of the developing countries. With its history of colonialism and apartheid, it has the trappings of First World education alongside a Third World type of educational provision. Besides the full-time programmes that are offered in what we in South Africa call 'the residential institutions', there is a need for other forms of educational provision to meet the needs of 'those large numbers of potential students who cannot afford full-time study, who cannot attend full-time classes, who live far away from institutions, or who do not have the required formal qualifications' (Glennie, 1995). Formal educational opportunities are inappropriate for such learners who require a more flexible mode of education that keeps pace with the demands of the 'ever-changing workplace and the international economy' (ibid.).

Glennie considers that distance education is the 'most systematically developed and best known means of implementing open learning'. She does, however, add the qualification, 'provided it is appropriately conceived and implemented'. One of the problems with distance education is that, in developing countries where there are economic constraints and where distance education may be largely in the hands of commercial providers, considerations of cost-effectiveness tend to outweigh other educational considerations and distance education deteriorates into correspondence education

Another problem with distance-education provision is that, when the mode of education changes from formal, on-campus provision to distance education, the writers of distance education materials merely write down the content of what they have taught successfully in the lecture room; they have not been trained in the different techniques of the distance education mode and are unaware of the special benefits that the distance education mode can bring. Let us use a quick example to demonstrate this type of special benefit: a teacher in a group discussion frequently has to face the problem of the domination of the discussion by confident, extrovert members of the group while the more reserved members do not participate; in an on-line provision of education, however, the shy students find that the on-line communication gives them more opportunities to participate; and consequently more students are involved in the learning activity.

Some Definitions

The National Association of Distance Education Organisations of South Africa (NADEOSA) uses these definitions of distance learning and open learning as they were defined in the National Commission on Higher Education Report, 1996 :

Distance Education: The offering of educational programmes designed to facilitate a learning strategy which does not depend on day-to-day contact teaching but makes best use of the potential of students to study on their own. It provides interactive study material and decentralised learning facilities where students can seek academic and other forms of educational assistance when they need it.

Open Learning: A flexible, learner-centred approach to education, seeking to increase access to educational opportunities by removing all unnecessary barriers to learning. This involves using the full spectrum of available resources to ensure quality and cost-effectiveness in meeting diverse

educational needs, including preparation of the widest possible range of learners for the process of lifelong learning.

Napier University in Edinburgh, Scotland uses different definitions of distance learning and open learning and provides one on flexible learning:

Distance Learning: A means by which education is achieved, characterised by a predominantly asynchronous communication channel between the tutor and students, who are usually at a physical distance from one another. Technology (whether new or old, print, computers, broadcast, video, etc.) is used to deliver the actual teaching content. There are often opportunities for synchronous communication (whether face-to-face, telephone, or electronic).

Open Learning: A description of the character of the educational process, an attitude that strives to reduce barriers to education be they related to access, finance, place, or pace of study, structure of the programme, or method of assessment. Open learning describes a student-centred approach that tries to provide not only as much choice as possible in all the areas mentioned above, but also as much student input on designing a route that fits their own preferred ways of learning. It follows that distance education can be open or closed in its characteristics, and in many ways so can classroom education.

Flexible Learning: This form of learning displays characteristics of an open system, i.e. trying to provide students with alternative educational experiences, methods of learning, and assessment. A primary characteristic of this approach is that a full course may be made up of a combination of teaching methods - some subjects may be taught in conventional lectures, some by computer-mediated self-study, some by using printed materials. This may or may not be accompanied by the element of student choice, although there is an assumption that students would at least be able to choose which subjects to do when so that they fit in with their life circumstances of the time.

Flexible Learning

Napier University has over the last three decades been transformed from a merger of technical college with a college of commerce, through central institution and polytechnic status to a major Scottish university. University status was achieved in 1992. Flexible learning courses have been offered for the last twelve years, mainly in the United Kingdom, but also in Mauritius, Hong Kong, and South Africa; and it is likely that they will be offered in India and other parts of the world soon.

This is how Napier University sees the benefits of flexible learning :

Providing flexible learning opportunities for our students is a positive way of addressing problems for both staff and students created by the squeeze on resources and has other desirable benefits to our students and the University. There is a national consensus that learning should be viewed as a life-long process. The mode of this learning will be varied and, for those in mid-career, take place with limited face-to-face contact with a teacher. It would therefore seem desirable that students whilst at University experience a range of modes of learning to prepare them to become lifelong learners. The material and support systems that are developed to support the learning of our students can be used after appropriate customisation to provide flexible learning courses both at home and abroad. It can be argued that the quality of provision is more easily guaranteed in flexible learning initiatives than by conventional teaching.

In both developed and developing countries, university resources are scarce, and we propose flexible learning as a solution to the problems of educational provision.

Collaboration or Constructive Partnerships

We have discussed the benefits of flexible learning to a university like Napier in a developed country. How can these benefits be transferred to developing countries? We believe that the answer lies in a collaborative, flexible-learning programme. There was a time when each educational institution jealously guarded its own intellectual property and went its own way, but we have now come to see the

value in co-operation among institutions. There can be mutual benefits to developed and developing countries in formal partnership agreements.

An important requirement for collaboration is quality assurance and assessment. An institution from a developed country has the responsibility of putting in place proper audit procedures to ensure that the standards of the developed country apply in the course that is being offered in the developing country. This quality control has benefits for the partner in the developing country because it gives prestige to the local institution that offers an international qualification with high standards; but the major benefit is that the co-operation between the two institutions will help to overcome the problem of isolation that many academics and students experience. It is important that the benefit should be mutual, otherwise colonial attitudes of superiority on the part of the staff from the developed country could prevail and prevent meaningful collaboration.

What can the institution in the developing country bring to this partnership? It can bring on-the-ground knowledge of the different circumstances that apply in the developing country, an understanding of the learners and their specific needs, which will inevitably be different from the learners and their needs in the developed country, and a customisation of the learning materials to adapt to the environment of the developing country. The theoretical content remains the same, regardless of country or environment. Practical application, such as examples and case studies, need to be customised to allow students genuine insight and understanding of how theories apply within their own environment. Such international partnerships also extend the knowledge and breadth of experience of staff from the developed country. The concept of the 'global village' means that we all increasingly need to become citizens of the world and to move away from insular or parochial attitudes.

Villarroel (1992) gives a Latin American perspective to education in developing countries and concludes: 'Only through pooling regional and international resources can education share expertise with other(s) across so many disciplines. This is one of the main areas requiring flexibility.'

A Collaborative, Flexible-Learning Model in the Provision of Business Education in A Developing Country

Let us now refer to a case study of an actual partnership in the provision of business education and see what kind of model of collaborative, flexible learning this may give us.

Business Education in South Africa. In South Africa there is a variety of business education programmes offered by its higher education institutions. These range from diplomas in business at private colleges and technikons to undergraduate degrees in commerce and accounting to postgraduate degrees at South African universities. The most sought-after postgraduate degree is the Master of Business Administration (MBA).

The MBA is offered in a variety of ways. Originally it was offered as a one-year, full-time, on-campus programme; then a two-year part-time programme was offered in addition to the one-year programme. A characteristic of the full-time and the part-time programmes is the intense pressure placed on students on the programmes; it is almost as if the student who could survive the pressure was worthy of graduating because it was considered that the business environment required the ability to work under great pressure. This was an assumption that underpinned the Harvard University MBA in the United States, on which the early MBA programmes were based. The University of South Africa (UNISA), a distance education institution, then introduced a Master of Business Leadership (MBL) programme over two years; again there was considerable demand on the students' time and ability to survive the course. More recently various institutions, private and public, have formed partnerships with overseas universities to offer MBAs as full-time, part-time, or distance education courses. One can say that there is a disproportionate provision of MBA programmes, some of which are rated very highly while the quality of others is questionable. In a truly flexible-learning MBA programme, however, attention would be given to the specific needs of the business students in the developing country, and specialist needs such as health studies, engineering management, educational management, and public administration would be offered as electives and as areas of specialisation.

The Napier University/Q-DEC MBA Programme through Flexible Learning in South Africa. After intensive discussions, a feasibility study, a business plan, and a validation process, the Napier MBA was introduced in South Africa in 1997. It is an interesting variation on the other MBA programmes offered in South Africa.

- It is a flexible learning programme that combines classes, workshops, tutorials, and distance learning.
- It is a three-year programme with multiple entry and exit points. It provides open access with bridging programmes and recognition of prior learning for students who have not had the opportunity of business education at the level of secondary or higher education.
- It provides full student support through interviews with tutors and the use of communication and educational technology.
- With its modular structure, it is ideal for people in full-time employment who cannot afford extended periods away from their workplaces.
- It is ideally suited for people in remote or distant areas and addresses the problems of distance learning.
- It is a validated, researched programme of study with proven success rates.
- It has a strong vocational focus with an emphasis on work-based learning.
- It is a cost-effective programme in comparison with other MBA programmes.

Before we discuss each of these characteristics, let us first give information about the South African partner in this collaborative initiative.

QACE Distance Education College (Q-DEC). This is a new private distance education college in South Africa. It was formed by a handful of people with years of experience in public and private higher education institutions, in adult education and training, and in distance education. The college is committed to open learning principles. Its mission statement, from which the name QACE derives, is QUALITY AND AFFORDABILITY IN COMMUNICATION AND EDUCATION. Q-DEC is the flexible learning division of QACE. Its other divisions are publishing, course development, video production, conference organisation, and educational consultancy.

A Flexible Learning Programme. As part of our definition of flexible learning we said that it tries to provide students with alternative educational experiences, methods of learning, and assessment. The Napier/Q-DEC MBA provides

- three-day workshops that are interspersed during the academic year and that have international and local facilitators,
- regular tutorials with local tutors and with the proceedings of the tutorials recorded so that students in outlying areas may be sent audio-cassettes of the proceedings,
- distance education materials of international standard customised to local conditions,
- regular assignments that are evaluated by both local and overseas tutors, and
- continuous assessment of participation during workshops and tutorials and of assignments, and by examinations.

Attendance at the three-day workshops is compulsory, and students must travel to Johannesburg and arrange their own accommodation for the duration of the workshops. The workshops provide opportunities for group-based, interactive learning, for students and tutors to interact socially, and for practical sessions such as role plays and computer-based business games.

Attendance at the three-hour tutorials is not compulsory, but the availability of audio-cassette recordings of the proceedings enables all students to participate in some way. Students are encouraged to discuss the topics raised during tutorials with fellow-students and with tutors. Tutors are expected to stimulate class participation during tutorials and to give the students maximum opportunity to ask questions and to give their comments. In this way students are given opportunities for self-expression and self-assessment during tutorials and when they listen to the audio-cassettes. In time tutorials may well be video-recorded, and this will give even more of these opportunities.

The distance education materials are developed by Napier University staff and jointly customised by local and Napier tutors so that local business practices and local case studies are used. All assignments are set by Napier staff, but local tutors have the opportunity of suggesting changes so that they are applicable to local conditions.

Assessment is continuous and is based on an equal weighting of assignments and examinations. Some parts of the course are assessed only on how well the students participate during the workshop

sessions. Local tutors are given opportunity to comment on the final assessment of students' work. Q-DEC nominates a local tutor for membership of the Board of Studies and the Examination Board at Napier. That person has full rights of participation in the business of these boards. Communication between Q-DEC tutors and staff and Napier tutors and staff can also be facilitated by telephone- and video-conferencing.

Student assessment of the modules and of the tutors' performance is encouraged, and there is a Student/Staff Committee that discusses all aspects of the course administration and the learning process

A Three-year Programme. There is a Certificate year, a Diploma year, and a Degree year. All three levels are postgraduate levels. The course gives students in full-time employment time to devote to their studies and to develop learning skills, practical applications of their learning, critical awareness, and creativity. Each year successful students are awarded the appropriate qualifications at a Napier University graduation ceremony in South Africa. Students may enter or exit at any of these three stages, depending on their prior qualifications or prior learning and on their results

Open Access. Many MBA programmes have inflexible entrance requirements, usually an undergraduate degree, a few years' managerial experience, and success in an entrance examination The Napier/Q-DEC MBA attempts to give as many candidates the opportunity to further their education as will be able to cope with the demands of the course. The minimum entry requirement is . either, over 22 years of age with a degree or equivalent and two years' management experience, or, over 25 years of age and four years' management experience.

Management experience is interpreted broadly: it is not necessarily business management experience; it could be in educational management or in the public service, for instance There is a compulsory entrance examination, but it is not only used to exclude candidates who would have no chance of coping but also used as a diagnostic tool to gauge candidates' weaknesses so that the institution may provide bridging courses or can be forewarned to give students special help once they have been accepted onto the course. An important requirement for such an entrance examination is that it should be independent of cultural bias: there is little value in having a Eurocentric bias in tests that are given to candidates from Africa. The Napier/Q-DEC entrance examination consists of an intelligence test, a language and memory test, and a mathematics test. The use of these diagnostic tests makes it possible to recognise prior learning and to offer access onto the course to applicants who perhaps lack formal qualifications. If applicants have passed the entrance examination, there can be little fear that they will not be able to succeed.

This access policy has advantages in widening the scope of MBA studies and making them more relevant to the needs of developing countries. Among the current Napier/Q-DEC students are people who have no formal educational qualifications and who are coping well with their studies; there are people with a wide variety of work experience including educational management, politics, and the civil service. The MBA is therefore more relevant to the sectors in developing countries that require training in administrative functions.

Student Support. One of the major deficiencies in the provision of distance education in developing countries has been the lack of student support systems. Holmberg (1986) states that the major concerns of proper student support are : "creating feelings of rapport between the learner and the distance-education institution (its tutors, counsellors etc.), facilitating access to course content, engaging the learner in activities, discussion and decisions and generally cater-ing for helpful real and simulated communication to and from the learner".

In South Africa (apparently more so than in many other African countries, according to John (1996)) a major problem is the absence of community learning centres. The lack of learning centres was seen as one of the greatest hindrances to effective student support in distance education in South Africa. (Report of the International Commission, 1994).

The Napier/Q-DEC MBA programme includes student support through the workshops, the tutorials, the study materials, the assignments and feedback on the assignments, group-based, interactive learning opportunities organised by students and Q-DEC, one-to-one interviews with tutors, telephone conversations, fax messages, e-mail communication, internet communication, audio-cassettes, and videos.

A Modular Structure. A flexible learning course should ideally have a modular structure so that students may plan their studies according to their own needs and so that they may pace their learning according to their abilities and circumstances. The Napier/Q-DEC MBA is based on a modular structure

that allows the institution to have more than one intake of students during a year and to allow students flexibility in their study options In the Certificate year each module consists of one subject (e.g. Human Resource Management), which, while closely related to the other modules in the course, may be studied during a four-month module. This suits people in full-time employment with busy schedules: it is more manageable to study one subject over a short period of time. It removes the pressure that causes so many MBA students to discontinue their studies, and yet it cannot be justifiably criticised as lowering standards.

Ideal for Distance Learners. The programme has proved to be ideal for people living in remote areas The present cohort of students includes people from Zambia, Zimbabwe, and Lesotho, as well as remote areas of South Africa. The normal problems of distance learning have been countered through workshops, audio-cassettes, e-mail, telephone, and fax. The compulsory workshops have given students a cohesive team structure and have encouraged them to form regional sub-groups. Q-DEC staff and tutors have literally gone out of their way to bring education to people who would not normally have been able to study for an MBA.

A Validated, Researched Programme with Proven Success Rates. One of the principles of open learning is that 'the providers must create the conditions for a fair chance of learner success' (Glennie, 1995). Some academics in South Africa do not agree with this; they tend to equate high failure rates with high standards. Principles of open learning encourage us, however, to look to our selection criteria, the quality of our teaching, and our student support systems when failure rates are high

Napier University has researched this course, validated it for both the United Kingdom and other countries, and has proved that the course can provide satisfactory success rates. This is an important task for the institution that awards the qualification. This kind of research and validation and the confidence of proven success rates will assure the developing country of the appropriateness of the qualification for its people.

A Strong Vocational Focus. One of the problems we mentioned earlier relates to theoretical, content-based learning This is a burning issue in South Africa at the moment. We are in the process of developing 'a national standards and qualification structure that will reflect the achievement of learning outcomes, defined at different levels from beginner to postgraduate, in terms of national standards' (African National Congress, 1994).

Scotland is in the forefront of the setting of vocational standards in education and training. The Scottish Qualifications Authority (SQA) 'offers what is arguably the world's best example of a modular, integrated scheme for education at craft, technician and higher levels' (Adey, 1995). Napier University prides itself on its close links with industry and commerce and on providing students with practical, work-related learning of direct benefit to the organisations in which they work. Its MBA programme has a strong emphasis on work-based learning.

Comparative Cost-Effectiveness. Cost-effectiveness in distance education is, as we have already noted, often an excuse for poor course development and meagre student support. We have already seen that this is not a justifiable criticism of this MBA programme. Cost-effectiveness can be an important attribute of a flexible-learning course of study in a developing country with economic problems of educational provision.

A Collaborative, Flexible-Learning Model. Glennie (1995) refers to these 'principles of open learning' :

- learning opportunities should be lifelong, encompassing as diverse and non-restrictive a range as possible, and allowing 'credits' to be accumulated over different learning contexts;
- learning opportunities should centre on the learners, building on their experience and taking into account their needs and their context;
- the learning process should encourage independent learning and critical thinking empowering learners to take charge of their lives and equipping them for a lifelong process of learning;
- the education system should be organised so that all barriers to learning are removed. To this end, learning provision should be flexible, so that learners can increasingly choose where, when, what and how they learn as well as the pace at which they will do it;
- furthermore, prior learning, previous experience, and demonstrated competencies should be recognized so that learners are not unnecessarily barred from educational opportunity by lack of regulated qualifications;

- the providers must create the conditions for a fair chance of learner success.

A comparison of what we have outlined as the characteristics of the Napier/Q-DEC MBA programme with these principles of open learning will show that the collaborative, flexible-learning MBA is truly an open-learning programme.

We may summarise the flexible-learning model with the help of two diagrams. The first represents a collaborative, flexible-learning model for developing countries :

The second diagram summarises the learning-teaching benefits for learners and facilitators in this flexible-learning mode :

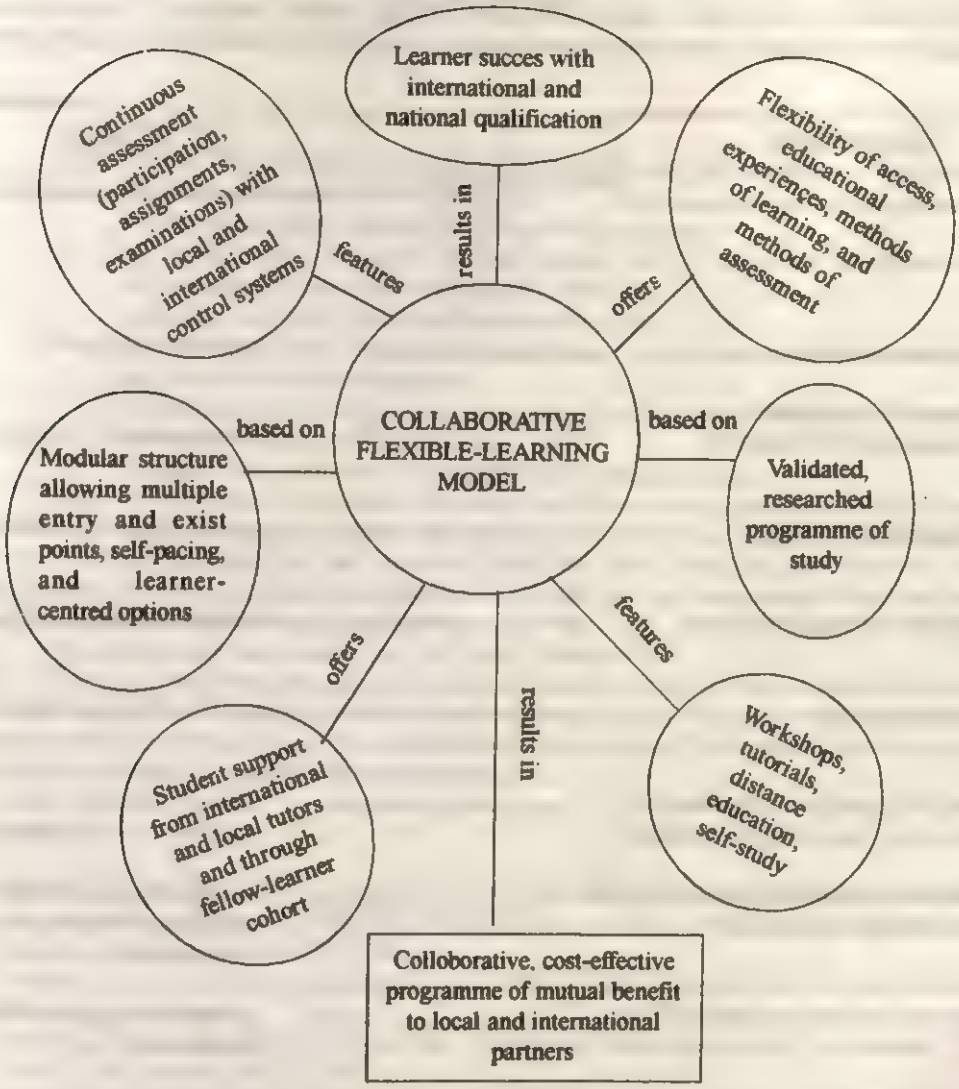

DIAGRAM 1
A COLLABORATIVE, FLEXIBLE-LEARNING MODEL
FOR DEVELOPING COUNTRIES
adapted from Greyling, 1996, 105)

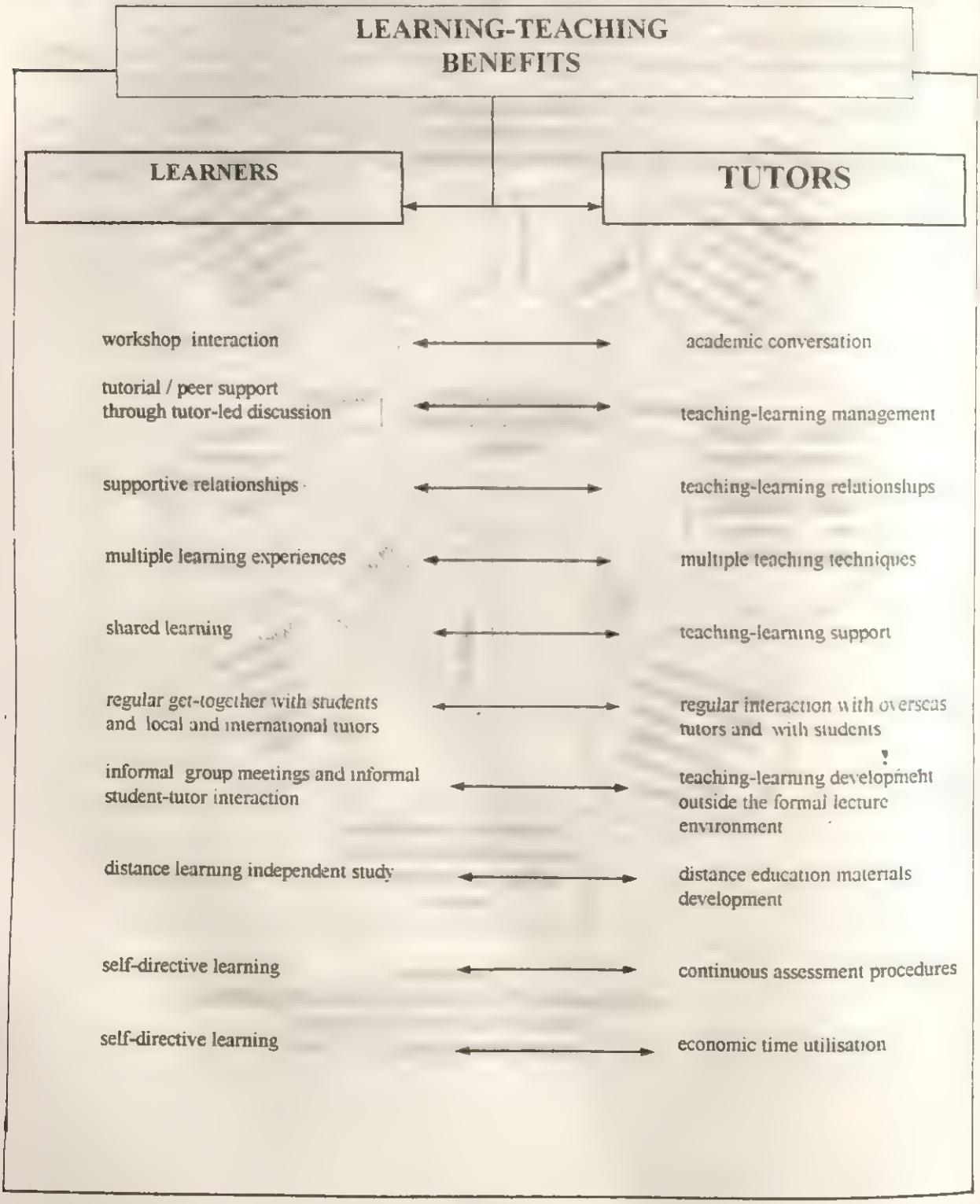

Diagram 2

Learning-teaching benefits for learners and facilitators
(adapted from Greyling, 1996, 106)

It will be seen that such a model may be used for other types of education than business education. Napier University in its flexible-learning programmes does not limit its provision to business education, although all have a vocational emphasis. Napier offers, among others, flexible-learning opportunities in : Education, Careers Guidance, Computer Studies, Library and Information Science, Bridging Courses, Mathematics and Statistics, Property and Construction Management, and Engineering.

Conclusion

Joseph (1992) refers to 'some of the fundamental reasons why development in Latin America is dependent on programmes of Higher Distance Education':

- To solve the problems caused by overcrowded universities.
- The consequences (of) poorly prepared teachers, lack of physical space, absence of the personal element in the teacher-student relationship.
- To make the concept of democratic education a reality.
- To solve the problem of non-formal education as a development basis for lower income, marginal, or minority communities.
- To allow the up-dating of professionals living away from towns and at long distances from information and specialization centres.
- To improve the cost/benefit ratio of large scale education projects.

Joseph (1992) does not consider that formal education can adequately meet the needs of educational provision in developing countries because it is 'a fairly elitist enterprise'. Villarroel (1992) sees the need of education 'to find ways to fulfill its social functions, to effectively modify underdevelopment'. It is our claim that collaborative, flexible learning programmes of the kind we have described meet these needs in developing countries.

In conclusion, we may quote White (1992, as in Thorpe,1995):

Those educators who have not been blinded by the chalk in their eyes now accept that the most significant step forward in education in this half of the century has been the burgeoning of the distance education mode of teaching, and let it be noted that just as significant in this decade will be the mixing of the distance education mode with the face to face mode.

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Training for Employability in a Globalising Economy

P. K. Richardson[1]

Introduction

Today we are experiencing the mechanisms of economic globalization. Our market is the planet. The world has become a large village and this is reflected in its nations, in its enterprises and in the life of its workers.

So what does globalization mean? Globalization refers to the growing economic interdependence of countries worldwide through the increasing volume and variety of cross-border transactions in goods and services and of international capital flows and the rapid and widespread diffusion of technology For nations and their enterprises, it means a new world of international mega competition

Economic integration among nations is not a new phenomenon and the integration of the world economy in recent decades can in many ways be seen as a resumption of the intensive integration that began in the mid-1800s and ended with the first world war During that period, artificial barriers to economic exchanges among countries were few and this resulted in the flow of goods and capital across borders. That earlier period was characterised by dramatic economic convergence in per capita incomes among today's industrial countries.

In several respects, however, the recent process of global integration is very different from that of the earlier period. Firstly, a larger part of the world and a much larger number of independent countries are participating in it. Secondly, the extent of this integration is much more far reaching and uncharted in its course Indeed, what we are experiencing is nothing like the world has seen before I wish to submit to you at the outset that what we are going through today is nothing short of a revolution, a revolution which, in terms of both its magnitude and implications, has no comparison in modern history.

This paper identifies the forces that are shaping the global economy, the extent to which this revolution has taken hold and its implications for nations, their enterprises and job security It goes on to argue that the focus of training of the workforce must increasingly be based on employability and that it is in the national interest for a concerted effort on the part of government, employers, the unions and the employees themselves to ensure that a well-trained flexible workforce is available as a means of sustaining a national competitive advantage in a world of mega-competition

The Forces Driving Globalization

What are the forces driving this revolution? There are three major factors One is the **digital revolution** or what is commonly referred to as the revolution in information technologies The incredible advances in communication technology have rendered the notion of time and space virtually irrelevant and obsolete. These have made it feasible for billions and billions of dollars to change hands internationally every day just by a few strokes on the keyboard of a computer New technological advances have sharply reduced transportation, telecommunications and computation costs, thereby greatly increasing the ease with which national markets may be integrated at the global level (Table 1).

Economic distances have shrunk and coordination problems have diminished to such an extent that in many cases it has become an efficient method of industrial organisation for an enterprise to locate different phases of production in different parts of the world The structure of foreign trade has become increasingly intra-firm and intra-industry, with foreign direct investment (FDI) being the engine of trade Research and Development spill-overs are another element fuelling economic linkages among countries As these various elements of globalization - trade, FDI flows, technology transfers, etc - become more closely linked and interconnected so is the world becoming more and more the relevant context for economic decisions.

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The second factor of this globalization revolution is the collapse of the communist system or, if you like, the failure of the socialist ideology and the sweeping wave of liberalisation and market reforms, which are taking hold around the world. Countries have lowered artificial barriers to the movement of goods, services and capital. Institutions like the OECD, the IMF and WTO have fostered multilateral trade and played pivotal roles in encouraging a growing number of countries to adopt open market-based reforms and systems. What is remarkable about this wave of liberalisation is that those countries which were the most allergic to market forms of economic organisation and, therefore, the most reluctant, at best, and the most closed, at worst, to foreign investment or for that matter foreign "interference" in their national economies, are today among the countries most active in their quest for foreign investment. China, India and Vietnam are examples par excellence.

Let me lend credence to this by citing the example of India. India is opening up its economy to foreign participation as never before, and rightly so. It has been estimated that India's power needs by 2005 will require an additional installed capacity of around 110 GW, requiring an investment of $110bn It is also estimated that only about a third of this can be undertaken by the public sector. This implies that about $80bn must come from private sources, mostly overseas. If inadequate power is not to become a bottleneck in India's strive to achieve the forecast growth of 7-8 percent in the coming years, there can be no alternative to foreign investment in the power sector. Also, to ensure adequate infrastructural development, it is forecast that India will need to increase its per capita consumption of steel from the abysmally low level of 23 kg to 30kg. This together with exports will require an additional steel capacity of some 12 million tonnes by 2001 (Richardson 1997). Since the Indian Government plans no further investment in greenfield plants, all this extra capacity must come from private sources, home and abroad

An indication of this orientation toward open economic systems is provided by the rising number of countries that have accepted the IMF's Article VIII obligations of convertibility of currencies for current account transactions. That number rose from 35 in 1970 (representing 30 percent of total membership) to 137 in early 1997 (representing 76 percent of membership) In the last one and a half decades or so, over 2.5 billion people have entered the world market, thereby altering the world economy completely in terms of shape, nature and rules.

The third driver of this globalization revolution derives from the fact that for the first time in the history of humanity, we have a situation where the centre of economic power is not confined to one particular country or region. Today a synchronisation of economic power in Europe, North America and East Asia has come to exist, with these centres achieving what one might call a situation of strategic economic parity. The implication of this state of affairs is that no one country of the world can claim pre-eminence, nor arrogate to itself the right to decide what is right or wrong or what is or what must be. In short, no one country can dictate the rules of the game.

Extent of Globalization

To what extent have markets become global? To date this questions mainly concerns the integration of capital and product markets. Labour markets remain highly segmented for several reasons including in the main immigration policies, language and cultural differences and indeed other barriers to international movement of labour. Labour mobility is still low and although the population of residents born abroad have been increasing in many industrialised countries, this is typically below 5 percent and exceeds 10 in only four (IMF 1997).

The extent of product market integration may be gauged from two measures: the ratio of trade to output and the extent of price convergence for internationally traded products across countries. Although the former data understates the true picture as an increasing share of advanced country output is in non-tradeable services, the growth in the measure is truly phenomenal. With regard to prices for similar goods, empirical studies have found large and persistent deviations from "the law of one price" for a wide range of traded goods, except for some highly homogeneous goods, such as gold. These are attributable to various adjustment costs and trading frictions (distortions). Even so, there is little doubt about the increasing convergence that is taking place, spurred by diminishing information costs and the removal of barriers.

Capital Markets have also become more integrated especially over the last 17 years. There has been a growing interdependence of national financial markets. Starting in the early 1970s, the relatively tight restrictions on international capital movements began to be dismantled. This period of capital and exchange liberalisation coincided with an intense period of deregulation of domestic financial markets and of extensive financial innovations. The twin effect of financial market liberalisation, on the one hand, and the emergence of new financial instruments and the decline of transaction costs, on the other, was a dramatic growth in cross-border financial dealings.

Cross border capital flows have grown since the early 1970s but especially so since the 1980s. As table 2 shows, cross-border transactions in bonds and equities in the major industrialised countries grew from less than 10% of GDP in 1980 to over 100 percent in 1995. Gross flows of portfolio investment and FDI in advanced industrialised countries more than trebled between the first half of the 1980s and the first half of the 1990s. Since the main agents of FDI flows are multinational enterprises (MNEs), the surge in FDI is a reflection of the on-going globalization of business. FDI flows from AICs more than quadrupled between 1984 and 1990 (Table 3). Unlike in earlier periods, FDI is no longer confined to the largest firms, as an increasing number of firms have achieved multinationality. Also the sectoral diversity of FDI has broadened, with the share of the service sector rising sharply. Along with these is the fact that the number of countries that are outward investors or hosts of FDI has risen considerably. By any measure, the volume of international financial transactions has reached extraordinary dimensions. The daily turnover in the foreign exchange market has grown from about $200bn in the mid 1980s to about $1200bn, equivalent to approximately 85% of all countries foreign exchange reserves (Table 4). Today billions of dollars of capital are international footloose, looking for the best return And this can be switched between countries just at the touch of a computer keyboard.

Implications of the Globalization Revolution

For Countries

Globalisation presents economies with both new opportunities and new threats. On a broad level, the welfare benefits of globalization, it may be argued, are essentially similar to those of specialization and the widening of markets through trade, as propounded by classical economists. By enabling a greater international division of labour and a more efficient allocation of resources, globalization raises productivity and average living standards. Broader access to foreign products allows consumers to enjoy a wider range of goods and services at lower cost. What is more, globalization confers access to foreign investible funds for domestic firms as they are no longer constrained by low domestic savings.

International commerce and competition, and hence globalization, like technological progress, are fundamental sources not only of structural changes in economies but more importantly of growth. Economic progress is, in a large part, a result of the successful adjustment and adaptation to such change. The biggest problem is that not all countries will fare well in this revolution. While it is true that society as a whole will benefit from this revolution, the gains are unlikely to be evenly distributed. (I use the word "may" because globalization has no preordained course). Seen positively, globalization creates prosperity and employment, lessens unemployment and misery. As is well known, it has opened up possibilities of growth in previously underdeveloped countries. For example, the four Asian Newly Industrialising Countries increased their per capita incomes from 18 percent of the industrial country average in 1965 to 66 percent in 1995, mainly on the back of trade-related policies (Chart 1).

But globalization may also have serious negative consequences. Weaker economies may go worse from the effects of intense competition at the hands of more efficient capital-rich economies. Cross-border movements in search of optimal business environments and borderless mega-competition may "hollow out" industries and impact of labour markets. In a global economy, the hitherto accepted "infant industry argument" will no longer be sustainable. As the World Bank has noted, the gap between per capita incomes has widened since 1965 and especially since the mid 1970s for non-Asian developing countries. Africa tells the most sorry story. The average per capita income level of African countries fell in relative terms from 14 percent of the industrial country level in 1965 to just 7 percent in 1995 (IMF 1997).

The result has been that, Africa and Asia roughly exchanged relative positions in this 30 year period. What is interesting in all this is that these developments in relative regional income performance seem to accord with the pattern and extent of integration as proxied by shares of world trade. Simply put, over the 30-year period, the majority of developing countries, 84 out of 108, have either stayed in the lowest-income quintile or fallen into that quintile from a relatively higher earlier position. While there was some tendency for countries to move into higher brackets in the 1965-75 period, the forces of polarisation seem to have become stronger as globalization has advanced from the early 1980s.

For National Policies

Any country the ignores the forces of globalization is at its peril. A key lesson from the experience of the recent past is that globalization has served to accentuate the benefits of good policies and the terrible costs of bad ones (Table 5). Countries which align themselves with the forces of globalization and undertake those reforms needed to do so are likely to be the winners in the game. To facilitate this, some economies are liberalising their markets and pursuing disciplined macroeconomic policies. These countries may expect to benefit from trade, gain global market share and increasingly be rewarded with larger capital flow. Countries which shun such policies are likely to fall behind in relative terms.

After decades of inward-looking policies, India set about reforming its policies and opening the country to foreign participation in mid-1991. Already the policy of continuing deregulation has started paying dividends. GDP growth for the 1992-96 period averaged 6.5 percentage, one percentage point higher than the average for the 1980s. The forecast is for a sustainable growth rate between 7 and 8 percent. Currently, India stands as the fifth richest nation on earth, in purchasing power parity terms. By 2010, India is forecast to move to third position in the league of the world's richest nations, third only to the US and China. These and other feel-good forecasts dwell very heavily on the assumption that disciplined macroeconomic and other reforms are undertaken.

Before we look at those policies which foster growth, it is necessary to first consider what the sources of economic growth are. In simple terms, economic growth springs from the accumulation of physical and human capital (labour) and advances in production technology - total factor productivity. For most developing countries, conventional growth accounting studies show that accumulation of factors, especially physical capital, has accounted for the greater part of output growth. World Bank estimates indicate that in the period 1960-92, roughly 60-70 percent of growth in per capita incomes was due to increases in physical capital per worker while education contributed a substantial 15-20 percent, with total factor productivity accounting for the rest.

So what are the policies that orchestrated well boost capital accumulation and total factor productivity? The first is "macroeconomic stability". By reducing uncertainty, macroeconomic stability allows investment and saving decisions to be made in a manner consistent with underlying economic fundamentals, leading in turn to a more efficient allocation of resources. It also boosts confidence and encourage domestic investment and the inflow of foreign capital. A comparison of fast- and slow-growing developing countries in the thirty-year period to 1995, shows that the shares of both investment and saving in GDP have been significantly higher for the former group. By implication, policies to raise the rates of investment and saving can play a crucial role in raising growth.

Another factor is "openness". Policies toward foreign trade are among the more important factors promoting growth. With open trade, domestic prices reflect world prices, thereby promoting the efficient allocation of resources. Trade not only allows a country to exploit its comparative advantages in production, it also promotes the importation of lowest-cost products which often has embodied technology. The strong correlation between open policies and fast economic growth is well documented. The fastest growing developing countries are those that as group had the highest ratios of imports and exports to GDP (Table 6).

Excessive state intervention in the economy tends to hamper or crowd out the role of the private sector in economic activity. What is more, administrative controls in product and financial markets distort resource allocation. This tends to be the case in countries with a large state-owned enterprise culture, where the direct involvement of the state in economic activity is large and widespread and where state-owned enterprises have monopoly rights in a large number of sectors. In India during 1989-94, for example, after-tax profits as a percentage of total sales were roughly four times higher among private

sector firms than in state-owned enterprises in comparable sectors. Another pertinent example will not be out of place. In 1987, the public sector accounted for 56 percent of total manufacturing investment. Yet its share of manufacturing value-added was only 16 percent. Market-oriented structural reforms that limit state intervention to areas of genuine market failures such as education, health and infrastructure may be expected to oil the engines of growth.

The necessary pre-requisite to the effective mobilisation of savings and the efficient allocation of capital among competing investment projects is a "stable financial market" with well-designed instruments. Countries that suffer from low growth have typically been characterised be a significantly lower level of financial development, as indicated by the ratio of broad money to GDP.

The effectiveness of an economic reform package in delivering higher growth and long-term prosperity often depends on the quality of "governance" in an economy. In many developing countries, a lack of transparency and accountability in public policy-making and excessive government intervention and regulation of economic activity have inevitable concomitants of rent-seeking behaviour and corruption. The twin ills of weak governance and corruption tend to lower government tax revenues and lower public investment and, in this wise, contribute to both fiscal imbalance and lower public investment than would be the case otherwise. They also deter both domestic and foreign direct investment. Inadequate protection of private property rights and a weak rule of law have for a long time been held to be critical obstacles to growth.

Adequate supply of labour is perhaps the most important economic resource and factor of production. Investment in education and human capital leads to the acquisition of skills that raise labour productivity and allow widespread use of existing technology as well as promote new technological development. Not surprisingly, the level of human capital in high-growth countries has been significantly higher than less-successful ones. Higher education has been found to have a relatively strong positive correlation with growth. As is well documented, public spending on education as a share of GDP has been found to be strongly and positively related to growth (Table 7).

For the Enterprise

What does golbalization mean for enterprises and employees? Globalization means a world of fierce competition and an ever-increasing pressure on the cost structure of companies. It also implies a process of delocalisation of business, a process which will increase as a result of the unending search for cheaper and cheaper production basis and for leaner and leaner but skilful workforce and management.

Increasing delocalization also means that not only is there the need for the corporation to sustain competition from other domestic firms in the same league, it also has to face further competitive threats from existing international firms and new entrants. In such a world market, the corporation is always in a situation where somehow in one domain or the other, it is trying to catch up with its competitors. This new world of mega-competition has, therefore, serious implications for the life and strategies of corporation, and by implication management and employee skills. Managers must strive to achieve the commanding heights of the world economy in a war where the winner wins all and the loser loses everything.

So what are some of the lessons that need to be learnt in order to achieve corporate success? I wish to submit to you that the first rule is the need for management to drive on versatility and speed. In the business era of yesteryears, it was the big fish that ate the small. This is totally irrelevant today and is becoming increasingly more so, Today, it is the fast fish that gobbles the slow fish. It is no longer a question of size. Rather it is one of flexibility and speed - the ability to identify new opportunities and adjust your strategies and structures to exploit them.

The second rule is to discard the idea that you can base economic power on raw materials and reserves, important of course as these are. Economic power now rests on the three elements of Knowledge, Communication and Network. The ability to create knowledge or to transform information into knowledge and channel this knowledge into the creation of added value and exploit it globally is one of the key sources of economic power. The next is communication and here the ability to convey corporate goals to interested parties especially employees and integrate them into these goals can determine the difference between success and failure. Lastly, networking ability which is the basis of successful strategic alliances has never been more important. Today, whatever your strength, isolation

will spell your doom. The company's ability to manage to its advantage a more and more complex set of relationships is a key determinant of corporate success. Although networking may not be desirable, it is necessary because today your partner is at the same time your competitor; your supplier is at the same time your customer. Hence the advent of the new buzz word "co-opetition", which refers to the ability to manage a complex mix of cooperation and competition. The airline industry abound with such "strategic alliances" where independent firms compete against each other and yet cooperate to mutual advantage when the economics demands it.

Globalization, Training and Jobs

Perhaps the aspect of globalization most relevant to this conference is that relating to training and job security. So what does globalization hold for jobs, training and labour productivity? The short answer is, for jobs uncertainty; for training, never-ending; and, for labour productivity, increasing pressures to improve. You see, inherent in globalization is a situation which calls for higher and higher productivity and better and better technology but where instead of creating new jobs, high productivity is destroying jobs. We see a situation where unlike in earlier times, there is a de-linkage between the fate of the company and that of its employees. If you are cynical, you could even say that higher profits and better performance of the corporation does not necessarily lead to better job security for the majority of the employees. The year Barclays Bank made its record profits of £1bn was when it announced its record redundancies. If the mega-competition swallows a company, and this is increasingly the case, then too bad for the employees. If, on the other hand, the company survives, there is hope for the employee, but only just.

That human resources development is the key to socio-economic growth is axiomatic. In the context of globalization and technological advancement, the need for and the importance of flexible training to bridge the skills gap is heightened. This flexible training includes enterprise-based training and continuous education. The creation of a highly-skilled and flexible workforce are especially important in a global economy as it enables enterprises and nations to achieve competitiveness and workers to achieve employability.

It is for this reason that the concept of employability needs to focus on equipping people with the skills and competencies they require to be employable or to create their own jobs and also to provide enterprises with the qualified, motivated and committed workforce they require to remain competitive and grow. Globalization is creating an ever increasing need to constantly learn to adapt for both enterprises and individual. Enterprises are looking for adaptable people with sound judgement and reasoning, able to solve problems, identify new opportunities, give customer specific services and learn new situations. Training will be required continuously throughout working life to enhance the employability of the individual and, collectively, the flexibility of the workforce.

In this new environment the accent is, therefore, on employability rather than employment. Up till now people depended on the security of lifetime employment. This is becoming less and less common. This new work environment requires a different approach by all parties. The individual worker needs to invest in developing broader and useable skills. Employers can assist in this by identifying and assessing changing requirements in the effective use of human capital.

The role of enterprises in addressing the challenges of training cannot be overemphasized. Although there is recognition of the need to train their employees, it is difficult to determine the extent to which enterprises are willing to invest in the qualification of their workers and to go beyond their immediate interests by contributing to the development of the employability of the overall workforce as a basis for sustainable growth and social development. But by investing in the employability of their employees, enterprises will not only meet their own particular labour needs, they will indeed be making a contribution to increasing the flexibility of the workforce. To this end, training of employers themselves as users of human capital requires priority attention alongside the training of employees.

Countries which thrive in this new global economy are those which can achieve the situation where they secure for their peoples a process of permanent education and training. This means that there is need for a partnership between industry and government which ensures a process of training that goes from cradle to the grave. There is need for continued skilling of the workforce to meet the changes that are on-going in the global economy. This requires a collective effort on the part of the unions, workers,

enterprises and government. The nation's survival and that of its systems depend on this and the earlier this is recognized the better the chances of turning India's huge potential into reality.

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Table 1 Costs of Air Transportation, Telephone Calls and Computer Price Deflator, US$.

Year	Average Air Transport Revenue per Passenger-mile, $	3-minute call NY-London $	US DoC Computer Price Deflator 1990 = 100
1960	0.24	45.86	12500
1970	0.16	31.58	1947
1980	0.10	4.80	362
1990	0.11	3.32	100

Source : Herring, R J and Litan, R E, (1995) Financial Regulation in the Global Economy.

Table 2 Cross-border Transactions in Bonds and Equities, % of GDP

	1980	1985	1990	1995	1996*
U S	9.0	35.1	89.0	135.3	151.5
Japan	7.7	63.0	120.0	65.1	82.8
Germany	7.5	33.4	57.3	169.4	196.8
France	8.4	21.4	53.6	179.6	229.2
Italy	1.1	4.0	26.6	252.8	435.4
U K	-	367.5	690.1	-	-
Canada	9.6	26.7	64.4	194.5	234.8

* January to September
Source : Bank for International Settlements.

Table 3 Gross Foreign Investment plus Portfolio Investment, Percent of GDP.

	1970-74	1980-84	1990-95
U S	1.0	1.4	3.3
U K	3.6	4.0	11.9
Netherlands	7.3	6.0	11.1
Germany	1.2	1.7	6.3
Canada	1.7	3.6	7.2
Belgium/Lux	-	3.6	41.5 (1990-94)
Japan	-	2.6	3.7
Spain	-	1.2	6.7
Switzerland	-	9.4	12.8

Source: The IMF (1997)

Table 4 Foreign Exchange Trading, $bn and %.

	1986	1992	1995
Global Daily Turnover	188	820	1190
As a Ratio of:			
Total World Exports	7.4	17.4	19.1
Total Non-Gold Reserves	36.7	86.0	84.3

Source: Bank for International Settlements.

Table 5 Developing Countries: Convergence and Growth in Selected Countries, %

	Average Growth Rate of of Relative Per Capita Income	Relative Per Capita Income+	
	1985-1995	1985	1995
Asian NICs*	4.7	56.4	86.7
Chile	3.3	33.6	46.7
Indonesia	3.2	13.7	18.8
Thailand	5.8	20.5	36.1
China	6.2	7.3	13.3
Malaysia	1.9	39.9	48.0
India	1.7	5.8	6.9
Bangladesh	0.4	6.6	6.9

+ Relative to the advanced countries average
* Hong Kong, S Korea, Singapore and Taiwan

Source: The IMF (1997)

Table 6 Developing Countries Performance, 1985-95.

	Low-Growth	Medium-Growth	High-Growth
Exports (%of GDP)	17.2	17.2	33.0
Imports (%of GDP)	17.7	18.1	32.4
Net Private Capital Flows*	11.8	19.9	68.3

* as a percent of total flows to developing countries.

Source: The IMF (1997)

Table 7 Developing Countries: Growth and Human Capital Development

	Low-Growth	Medium-Growth	High-Growth
Human Capital*	3.3	3.8	5.4

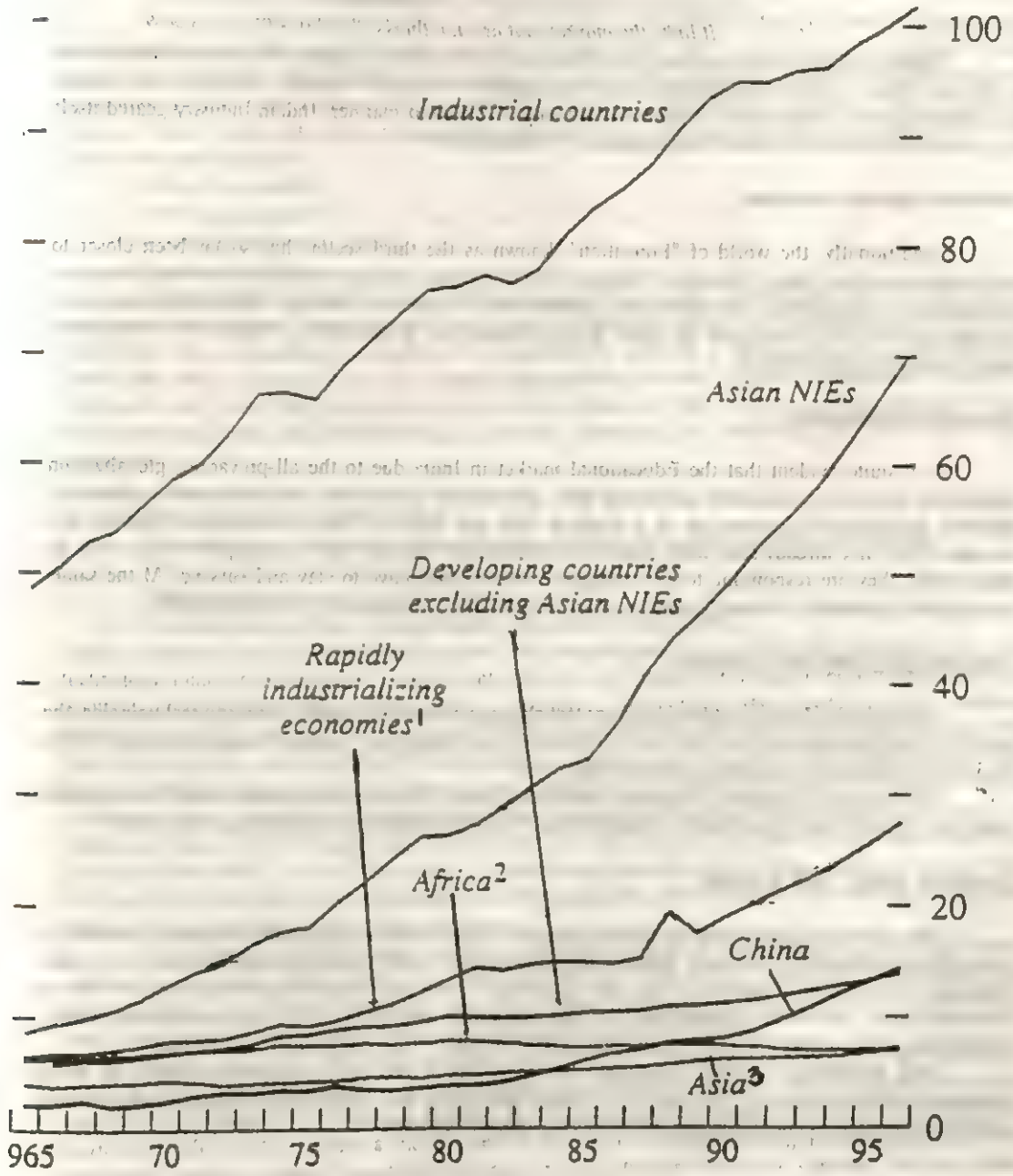
* Schooling years in population aged 15 and over
Source: The IMF (1997)

Table 8 Developing Countries++: Policies and Economic Performance

	Low-Growth**	Medium-Growth	High-Growth
Initial Conditions:			
GDP per capita@@	2185	2188	2734
Human Capital@	3.3	3.8	5.4
Macro Conditions:.			
Savings*	16.5	26.0	31.4
Investment*	19.4	21.1	31.9
Inflation (median)	14.1	11.1	7.8
Fiscal Conditions:			
Fiscal Balance*	-5.6	-3.3	-2,4
Govt. Spending*	25.0	20.0	18.9
Monetary Conditions:			
Money & Quasi Money*	38.4	36.4	64.9
Bank Credit to Private Sector*	25.4	31.0	63.1
International:			
Net Private Capital Flows+	11.8	19.9	68.3
Current A/c balance*	-2.6	-1.4	0.3
Exports*	17.2	17.2	33.0
Imports*	17.7	18.1	32.4

++ Excludes major oil exporting nations
** Low growth defined as less than 0.5% per year; high-growth is above 2.9%.
@ Group average in US $ terms, PPP.
@ Average schooling years in population aged 15 and over.
* in percent of GDP
+ in percent of total private capital flows to developing countries; excludes Asian NICs (Hong Kong, S Korea, Singapore and Taiwan).
Source : The IMF (1997)

Chart 1 : **Developing Countries and Asian newly Industrialized Economies (NIEs) : Real Per Capita Income (In percent of 1995 industrial country per capita GDP : purchasing power parity terms)**



Source: The World Bank

Educating Market : Marketing Education

Ravindra G. Dastikop[1]

Liberalisation links the unlinked, unlinks links.
It links the market that no man thinks.

"Globalization" spares no country nor markets. Now it is only a question of time and not of wish on the part of any country in adopting marketing attitudes which are "Global". As soon as the Indian Government decided to liberalize its economic policies in a phased manner, Indian industry geared itself up to meet the challenges it would face, because of "Liberalization".

Education Open for Business

Traditionally, the world of "Education", known as the third sector, has so far been closer to profession and service than to business. However, in recent times, in many places in the world, Education has become a big business, in fact an industry, and similar is the case in India too. With the opening up of economy and due to an onslaught by global players because of globalization, "Education" is becoming more of a business than service.

Network with Education

It is quite evident that the Educational market in India due to the all-prevading globalization would soon become an important marketing field. Educational institutions large and small, regional or national, throughout the nation are in a hurry to find and adapt to latest technologies, methods and services. They have already seen what these technologies have done for their counterparts in the west. In other words, they are responding to the changing world as they have to stay and survive. At the same, time the Indian industry is trying its best to offer "World Class" products and services to public.

The Changing Education Scenario

Education in India is undergoing very fast changes, because of rapidly changing technologies, the modes of education and its basic form and structure are also changing, causing education changes in the dynamics of its application and functions of education.

At the time of preparing this paper, there exist nearly 220 plus universities which have enrolled more than 60 lakh students and have employed nearly 3,00,000 faculties in higher education alone.

Corporate India : Task at Hand

But do the Indian companies have a plan with them to make most of this burgeoning market? It is a market of educated individuals, future-oriented institutions and forward looking students. *In a sense, Education is the mother market of all other markets, as the very idea of marketing has its root in Education itself.* One of the characteristics of this educational market is that it is an institutional market, individual market, student market, youth market, SOHO market --all at one and the same time.

But surprisingly enough, Education is still to get a slot in the marketing agenda of many companies and corporations. Even now it is looked down as a low-ended market segment which rarely gets the attention of marketing departments in their plans it deserves.

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Marketing to Education

Even market leaders should
Get new markets and seek a greater share
The ocean fears no diminution
Yet wats river's contribution.

When the Liberalization trends sweep the country and business India offers world class range of services and beats a path straight to the door of Academic India, *will it have to make an effort to gain entry or walk right in?* Has anybody in the market even asked the prospective academicians this question? Have they tried to have a measurable, meaningful interaction with them? Is there, in fact, a sense of genuine need in them, let alone any guarantee that they will captivate, fascinate and fixate rather than simply bore and befuddle?

There is no market
called easy to pocket
but market man must strain
to company's pain

Winning great market share and keeping a hold on it (in Educational India) as the pace of competition quickens will require a sober judgement and foresight, mixed with risk-taking and marketing know-how. The single-minded approach with the purpose, calls for a whole new way of thinking and brand new skills. Above all, it will require preparedness to take hitherto unimaginable, hopefully calculated risk. Launching a new product or service to academic India requires willing readiness to face the challenges in the field of marketing and service providing. For achieving this, we have to find answers to :

1. How large is the potential market?
2. How quickly will majority embrace the new products and services including technology?
3. What academic needs are being met?
4. Will the academics perceive the value?
5. Are educational trends moving towards or away from the market

Dearth of products and services is not a reason for companies not to aim educational markets. Nor is the technology a barrier to delivery of new services. *Finding and targeting markets is the key reason for this.* Some of the Education's best potential users - institutions, individuals, associations, societies, students, libraries are simply not aware of the array of products and services offered by the companies and when they become aware, cannot simply afford the existing prices. Challenges facing the corporate India then are to dramatically expand their ability to create awareness of available products and services, and to understand what segments individual academicians want and how much they are willing to pay for it. We realize, of course, that even though the customers do not know it yet, but we know that India is a price-sensitive market. Let us remember, it is not enough to say that we have range of products and services but it must also be made available at lower possible infrastructural cost too and it must also deliver the value of their money to the customers.

Major players in Education markets would be institutions, academicians, service providers, publishers, equipment manufacturers, regulators and standardizing bodies. Regulators will be called upon more and more to set trends in adopting new technologies. Companies shall minimize life cycles cost and boost sales by introducing and marketing new services at the earliest instant.

While most of the discussion currently revolves around how global trends affect our Educational India, what we should be asking is what products and services will it need and how great the demand would be? When multiple services are available in abundance and at competitive prices, service providers in India have to test their products and services keeping these potentially changing environment in mind, and evolve ways to attract Educational markets, which otherwise would be captured by other global companies.

One thing is certain : a strong marketing database shall have to be built here. Building a strong marketing database will require gathering and storing data so that current and prospective customers can

be identified early, thereby ensuring that every contact with them can potentially be turned into a marketing event.

But the providers of product and services that will succeed in this market must always bear in mind the financial restrictions these educational fields face and must remember that the cost of traditional infrastructure already built cannot be done away with, they can only be improved upon. Thus, basically there has to be an evolutionary effort rather than a revolutionary one.

But has corporate India thought out any plans to market their products and services to the emerging educational markets? For an emerging market, estimating demand is crucial for success Assessing demand, however, requires data and a clear-cut frame within which market can be evaluated Hence competent consultants who can provide fresh outlooks are in demand.

Conclusions

To reach its global goals, Educational India needs world class products and services. Our markets have to come forward and market their products and services to Education the way they market to any other sectors of the industry and have to ensure high quality products and services for education's pursuits and programs. The bridges between Education and markets to be built and buttressed, if we must become leaders in adopting state of art technology. Markets get actively interested in Education by helping to update the infrastructure and meet new emerging challenges. This not only contributes towards improving the quality of education but also ensures the continued prospering of market itself.

Appendix 1

Origins of Edumarket

With the theme discussed above in the paper in mind, Edumarket started thinking on possible ways by which this education and market interface can be built. One way that is adopted is to segment education into broad sectors and then to link it up with the corresponding market.

Realizing this need for promoting more and more of education and market interaction, a small attempt has begun at Edumarket. Our mission is to link Education and markets in ways no one has thought. The Eduzen (student, staff and any one related with education) must be linked with the appropriate product or service available anywhere in the market. In the same way, a marketer must exactly know the part of Education which needs his products/service (For example a faculty with a publisher and vice versa). First we limited ourselves to technical education system in India and within it, only to Engineering and Technology colleges in India. Our idea is simple, at first level, we create a database of these institutions and produce mailing labels for the marketers to target this market. For example, Telco Pune was offering its CASE TOOL product Turbo Analyst under special concessional offer to educational institutions. At that time, we offered them our mailing list which offered them a specific market they were considering. The case of Telco confirmed our belief that there is a need for this kind of interface service. Many other companies followed and employed our databases in their efforts to reach specific market in the Educational India.

What Next?

Now our group is attempting to broaden both its scope and reach of our venture so that it can create a better interface between Education and Markets in India. In this regard, any suggestions broadly answering the following are welcome :

1. What more can be done?
2. How do we organize the effort?
3. How fast and far should we proceed?
4. Any other suggestions to make this venture more useful to the marketers.

Infrastructural Facilities at Training Centres

Anju Manocha[1]

M. Nath[2]

Human resource is a key factor in development. It is in early childhood that the foundations for physical, psychological and social development are laid. Provisions of early childhood services in an integrated manner especially to weaker and vulnerable section of the community would help to prevent or minimize wastage. It has been realized that all basic essential services for the proper development of the child, i.e. nutrition, health and education should be simultaneously provided to children and mothers right in their own village or ward. A scheme of Integrated Child Development Services (ICDS) was included in the Fifth Five Year Plan in the social welfare sector to give a definite focus to the development of service for early childhood years. The scheme started in 1995 was initially implemented in 33 blocks on experimental basis and was later on expanded. There are different levels of functionaries for the scheme. For the delivery of these services to beneficiaries, a common platform called anganwadi is available. An anganwadi normally covers a population of about 1000 in rural or urban areas and 700 in tribal areas. An anganwadi is run by Anganwadi Worker (AWW) who is assisted by a helper AWW, who as the grass root level worker has a pivotal role to play in implementation of the scheme. An anganwadi is the focal point for the delivery of the package of services to children and mothers.

The success of whole programme lies in the success of AWW which further depends upon the training imparted to them. There is a great need of proper training and hence need for follow up. Adish (1985) too emphasized the importance of proper training and stressed that as ICDS is a scheme with multisectoral involvement, the efficiency and results of the scheme will be better if training institutes in various universities are also involved in the training of AWW.

AWW are given training to carry out their duties properly. Recognizing the crucial importance of training, the Ministry of Social & Women Welfare, Govt. of India worked out a detailed programs of training of different functionaries involved in the implementation of scheme of ICDS. Training responsibility of AWW has been entrusted to Indian Council for Child Welfare (ICCW), voluntary organizations like Kasturba Gandhi Memorial Trust, schools of social work, College of H.Sc. and the institutions run by government. In Haryana, there are twelve Anganwadi Workers Training Centres (AWTC), out of which two are run by Kasturba Gandhi Memorial Trust and rest by ICCW. The training of AWW is residential one for three months so the physical infrastructure of AWTC should be strong enough to make their stay here comfortable. Thus the present study was undertaken with the objective of examining infrastructure facilities available at training centers.

Methodology

There are twelve AWTC in Haryana. This study is limited to six AWTC in North-Eastern zone of Haryana. This includes two centers each at Rohtak and Radour and one each at Kurukshetra and Panchkula. A total of 282 trainees and 18 trainers distributed over these six centers served as respondents for the present study (Table 1). The opinion of trainees and trainers towards the facilities available served as dependent variable whereas their socio-personal and economic factors served as independent favorables. The data were collected personally with the help of well-structured interview schedule prepared in accordance with the methodological procedure and objectives of investigation. The qualitative data were quantified according to the standards laid down. Simple percentages were calculated to assess the background information of respondents. Respondents were assigned scores for positive and negative statements and then mean score was calculated. Chi-square was also applied to find out the association between socio-personal economic factors and opinion of trainees.

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Result and Discussion

The physical infracture of all the six centers was studied and then compared with recommendations laid down by National Institute of Public cooperation and Child Development (NIPCCD).

Boarding & Lodging facilities- The boarding and lodging facilities as mentioned in Table-2 revealed that the hostel was situated within the periphery of training center in all the six training centers while NIPCCD too recommends that either the hostel should be within the training center or should be at a walkable or reasonable distance.

As per the recommendations of NIPCCD, there should be twelve rooms in the hostel to accommodate 50 trainees so that there will be four trainees per room but the existing situation was found to be quite different. Hostels were overcrowded in all the training centers with 5-6 trainees in each room. There should be a bed, an almirah, two chairs and table per trainee in the hostel as recommended by NIPCCD. But in none of the AWTC, all these facilities were provided. Some centers had a bed and an almirah while a few had only almirahs. As per the recommendations of NIPCCD, there should be a minimum five bath rooms and latrines in each AWTC. But at Radour, there were just half the toilets of the recommended value.

Safe drinking water in adequate quantity irrespective of its source was recommended by NIPCCD. Though tap water, handpump and tubewell were the main sources of drinking water in the training centers but both the centers at Rohtak faced an acute shortage of water.

Thus it can be concluded that hostel facilities were average in training centers run by ICCW except for minor problems. But hostel facilities in AWTC run by Trust were not satisfactory Meher (1984) too highlighted the problem of crowded hostels in AWTC. Since these training centers are residential institutes, so trainees are to be provided with food within the hostel. NIPCCD recommends cooking of food in a common kitchen in the hostel. Mess facilities were found to be up to the mark in all the training centers depicted in Table 2.

Educational Facilities- As mentioned in Table 3, one big spacious class room should be available in each AWTC to accommodate 50 trainees at a time according to the recommendations of NIPCCD. But in all the training centers, only one small class room was available. The class rooms were very conjested in all the centers. Trainees had to sit on durries in all the centers against the norms of table and chair or desk by NIPCCD but either class rooms or open space served the purpose in most of the training centers. Thus class room facilities were not found satisfactory. Though the books were available in all the training centers but a separate room for a library was not available as recommended by NIPCCD. The facility for library was also not found to be satisfactory in any of the six centers. At none of the centers, all the items prescribed by NIPCCD as shown in Table 3 were available.

Recreational facilities - space for outdoor games, recreation room for various indoor games, organizing cultural programs, etc. are recommended by NIPCCD. But the situations existing at the training centers were not satisfactory. None of the centers had all the items prescribed by NIPCCD as depicted in Table-4. Thus the recreational facilities were not found to be satisfactory in all the AWTC's.

Opinion of the trainees- Opinion of the trainees about facilities available was collected through statements. Table-5 exhibits distribution of trainees according to their opinion towards facilities. The result revealed that maximum number of trainees, i.e. 96 percent were satisfied with the space provided in training center. A majority of the trainees were satisfied with all the facilities available like hostel facilities (95%), mess facilities(90%), class room facility(80%), library facility(72%) and recreation facility was found satisfactory by 63 percent trainees only. Similar results were reported in an evaluation study of ICDS (1982), 14.7 per cent felt that the building in which the programs is run inadequate while 37 per cent felt it to be adequate and 48 per cent said that it is just barely adequate. Further the basic amenities like electricity, water for drinking toilets, etc. were not available in most of the places. To reach at concrete results, a scoring for the opinion of trainees towards facilities was carried out. Trainees were then divided into three categories according to their scores. On an overall basis, it was found that majority of trainees(93%) had favourable opinion towards facilities available.

To find out the association between various socio-personal and economic factors and opinion of trainees, they were classified into two categories, viz. one having score below mean and others with score

more than mean: The chi-square was applied. The results as per Table 6 revealed that education, type of family and family occupation were significantly associated with the opinion of trainees towards facilities available at various AWTC. Rest of the factors, i.e. age, caste, marital status, size of family and family income were found to be non-significantly associated. The reason for the significant association might be that the trainees who are well qualified and belong to service class families have more awareness about the facilities they can avail and were thus dissatisfied with the ones they get.

Opinion of trainers- There were three trainers at each of the six centers. More than 50 percent of them were postgraduates. Table 7 reveals the opinion of trainers towards facilities available at various centers. All the trainers at all the training centers were satisfied with the hostel facility, electricity and mess facility. Toilet facility and recreation facility was felt satisfactory except at Radour center. None of the trainers of Rohtak were satisfied with the water facility. Some dissatisfaction was expressed by some centers for class room and library facility. It can thus be concluded that trainers were satisfied with all the facilities except for class-room, recreation and library facilities

Thus it can be suggested that as the trainees have to live here for a period of three months, their stay should be made more comfortable and interesting. Efforts should be made to review the facilities of AWTC's from time to time. The state/district level officers dealing with ICDS should visit and inspect AWTC's with the objective of filling the gaps, improving the facilities and ensure full utilization of the training capacity. This has also been brought to notice by ICCW. Alongwith providing guidance while their visit to AWTC's, they should also provide feedback on their working of AWTC to the Ministry of Social and Welfare and NIPCCD. This will be helpful in removing the gaps and improving the facilities in AWTC.

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Table 1. Distribution of respondents

AWTC	*Number of*	
	Trainees	*Trainers*
1. Rohtak	49	3
2. Rohtak	41	3
3. Panchkula	51	3
4. Radour	48	3
5. Radour	46	3
6. Kurukshetra	47	3
Total	**282**	**18**

Table 2. Boarding and Lodging Facilities for trainees at AWTC against recommended norms.

Recommendations of NIPCCD	*Rohtak-I Centre*	*Rohtak-II Centre*	*Panchkula Centre*	*Kurukshetra Centre*	*Radour-I Centre*	*Radour-II Centre*
I. Hostel facilities						
1. Hostel within the training centre	Yes	Yes	Yes	Yes	Yes	Yes
2. Hostel with 12 rooms	No	No	No	No	No	No
3. Fixturees in rooms						
i. A bed	No	No	No	Yes	Yes	Yes
ii. An almirah						
ii. Two chairs & tables	No	No	No	No	No	No
4. Five bathrooms and five latrines in the hostel	Yes	Yes	Yes	Yes	No	No
5. Availability of safe drinking water in adequate quantity	No	No	Yes	Yes	Yes	Yes
II. Mess facilities						
1. Common kitchen for food	Yes	Yes	Yes	Yes	Yes	Yes
2. Mess worker on cooperative basis	Yes	Yes	Yes	Yes	Yes	Yes

Table 3. Educational facilities for trainees at AWTC against the recommended norms.

Recommendations of NIPCCD	*Rohtak-I Centre*	*Rohtak-II Centre*	*Panchkula Centre*	*Kurukshetra Centre*	*Radour-I Centre*	*Radour-II Centre*
I. Class room facilities						
1. One big and spacious class room	No	No	No	No	No	No
2. Table and chair or desks for siting in room	No	No	No	No	No	No
3. A separate demonstration room	No	No	No	No	No	No
II. Library facilities						
1. A separate well-equipped room should serve the purpose of Library	No	No	Yes	No	No	No
2. Books should be referred regularly	Yes	Yes	Yes	Yes	No	No

Table 4. Recreation facilities for trainees at AWTC against recommended norms.

Recommendations of NIPCCD	*Rohtak-I Centre*	*Rohtak-II Centre*	*Panchkula Centre*	*Kurukshetra Centre*	*Radour-I Centre*	*Radour-II Centre*
1. Separate recreation room for indoor play	No	No	No	No	No	No
2. A space for outdoor play	Yes	Yes	Yes	Yes	No	No
3. **Facilities in recreation room**						
a) Indoor games (Chess, carrom, baja harmoniu, dholak, tabla)	No	No	No	No	No	No
b) Radio	No	No	No	Yes	No	No
c) Daily Newspaper	Yes	Yes	Yes	Yes	No	No
d) Magazines	Yes	Yes	Yes	Yes	No	No
e) Journals	No	No	No	Yes	No	No
f) 6 chairs/moodhas	No	No	No	No	No	No
g) 1-2 durries	Yes	Yes	Yes	Yes	Yes	Yes

Table 5. Distribution of Trainees According to their Opinion Towards Facilities Available.

S. No.	Facilities	Rohtak-I (N=49)			Rohtak-II (N=49)			Panchkula (N=51)			Kurukshetra (N=47)			Raudaur-I (N=43)			Radaur-II (N=46)			Total (N=282)		
		S	*JO*	*N.S.*	*S*	*JO*	*N.S.*	*S.*	*JO*	*N.S.*	*S.*	*JO*	*NS.*	*S.*	*JO*	*NS.*	*S.*	*JO*	*NS.*	*S.*	*JO.*	*NS.*
1.	Space in Centre	48 (98)	-	1 (2)	41 (100)	-	41	50 (98)	-	1 (2)	46 (98)	-	1 (2)	39 (81)	-	9 (19)	46 (100)	-	-	27 (96)	-	12 (4)
2.	Hostel	48 (98)	-	1 (2)	41 (100)	-	-	51 (100)	-	-	45 (96)	-	2 (4)	37 (77)	-	11 (25)	46 (100)	-	-	263 (95)	-	14 (5)
3.	Mess	57 (76)	1 (2)	11 (22)	41 (100)	-	-	51 (100)	-	-	47 (100)	-	-	34 (71)	-	14 (29)	45 (58)	-	1 (2)	256 (90)	1 (0)	26 (9)
4.	Recreation	40 (82)	-	9 (18)	40 (98)	-	1 (2)	29 (49)	-	26 (51)	47 (100)	-	-	10 (24)	-	38 (30)	12 (26)	-	34 (74)	174 (63)	-	103 (37)
5.	Class room	10 (88)	-	39 (80)	36 (88)	-	5 (12)	38 (75)	-	13 (25)	45 (96)	-	2 (4)	46 (96)	-	2 (4)	45 (98)	-	1 (2)	220 (78)	-	62 (22)
6.	Library	34 (45)	8 (16)	3 (19)	6 (15)	-	35 (85)	31 (61)	1 (2)	12 (37)	47 (100)	-	-	40 (83)	-	8 (17)	46 (100)	-	-	204 (72)	9 (3)	69 (25)

Note : 'S' stands for satisfied
'Jo' stands for just Okay
'NS' stands for Not Satisfied
(Figures in Parathesis indicates percentage)

Table 6. Association between socio-economic factors and opinion of trainees towards facilities available at training centres.

Factor		*Opinion*			
		Opinion towards facilities			
		Below	*Mean*	*Above*	*Mean*
1. **Education**					
Up to matric		66	(30)	161	(70)
Inter		15	(50)	15	(50)
B.A. / B. Sc.		10	(40)	15	(60)
	X^2 cal at 2 d. f.	9.81			
	X^2 tab	5.99			
	Hence significant				
2. **Type of family**					
Nuclear		48	(41)	70	(59)
Joint		43	(36)	121	(74)
	X^2 cal. At 1 d. f.=	6.55			
	X^2 tab	3.84			
	Hence significant				
3. **Family occupation**					
Lobour		12	(39)	19	(61)
Caste occupation		15	(63)	09	(37)
Business		09	(28)	18	(72)
Agriculture		19	(26)	52	(79)
Service		36	(31)	84	(69)
Others		02	(18)	09	(82)
	X^2 cal. At 5 d. f.=	18.51			
	X^2 tab. =	11.1			
	Hence significant				

Table 7. Distribution of trainers according to their opinion towards facilities available at training Centre.

Facility	*Centre Rohtak-I*			*Centre Rohtak-II*			*Centre Panchkula*			*Centre Kurukshetra*			*Centre Radour-I*			*Centre Radour-II*			*Total*		
	S	*N*	*DS*	*S*	*N*	*DS*	*S*	*N*	*DS*	*S*	*N*	*DS*	*S*	*N*	*DS*	*S*	*N*	*DS*	*S*	*N*	*DS*
Hostel	3	-	-	3	-	-	3	-	-	3	-	-	3	-	-	3	-	-	18	-	-
Toilet	3	-	-	3	-	-	3	-	-	3	-	-	2	-	1	1	1	1	15	1	2
Water	-	-	3	-	-	3	3	-	-	3	-	-	3	-	-	3	-	-	12	-	6
Electricity	3	-	-	3	-	-	3	-	-	3	-	-	3	-	-	3	-	-	18	-	-
Mess	3	-	-	3	-	-	3	-	-	3	-	-	3	-	-	3	-	-	18	-	-
Recreation	3	-	-	3	-	-	3	-	-	3	-	-	-	-	3	-	-	3	12	-	-
Class-room	2	-	1	2	-	1	3	-	-	3	-	-	1	-	2	1	-	2	9	-	9
Library	3	-	-	3	-	-	3	-	-	1	-	2	3	-	-	3	-	-	15	-	3

S - Satisfied
N - Neutral
DS - Dissatisfied

FMEA and QFD as Accountability Tools in Education

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Introduction

In this era of quality, human resource development is in the limelight. Educational institutions which are essentially human resource developing organisations are looked upon as a source of high value input for economic and technological development of a nation. However, the quality of graduates emerging from many of the higher educational institutions fall short of everybody's expectations. The need for uplifting the quality of education imparted is the prime concern of educationist (Placid Rodrigues, 1996), industrialist and policy makers. On the other hand, the Government is finding it difficult to increase the budget allocation for higher education because of unprecedented constraints. In this situation, productivity increase in the existing educational institutions has to be aimed at. If accountability factor is taken care of one can expect the productivity to increase. This paper highlights a few of the techniques that can be employed for imbibing accountability in educational system.

Accountability in Education

Educational system is facing severe criticisms both from public and government. The professors in colleges are largely blamed for lowering of the standard of education in institutes of higher learning. They in turn blame the system for their failure. This has resulted in the current status of low productivity levels in educational systems. Available infrastructural facilities are not being put to the maximum use (Jandhyala B.G. Tilak, 1996). Adding to this irony, the government is finding it difficult to fund higher education and the student community seems to have taken educational process in a lighter vein, giving importance to the degree they get rather than the learning component.

Accountability in education has been an elusive phenomenon for ages. Time has come to imbibe this into the system. A delay in this will lead to catastrophe. Mandatory report submission after every process or at frequent intervals may make the people and the system accountable. These types of exercises and audits fall under corrective measures. Such methods have a couple of disadvantages. The first one being based on the Parker's principle which says "Everyone likes to do only what one wants and not what should be done". The corrective strategies stress the 'should be' and hence it will not be appreciated by the employees involved. The second disadvantage is that the very nature of corrective strategies imply that there is lacuna in the system and the process. Because of these problems, the preventive measures are advised in places where individuals' voluntary involvement is desired (Suganthi et al, 1997a).

"Accountability" is stressed not with the view to set right the erring faculty, but with the view to improve the quality of education imparted. In this angle again, it will be beneficial if steps are taken to perfect the system first, rather than pinpoint the drawbacks in the faculty. By this the individual's role is in no way underestimated. Once the system is set right taking care of the other constraints and problems will be much easier.

Failure Mode and Effect Analysis

Failure Mode and Effect Analysis (FMEA) is a well-established tool in Total Quality Management System. FMEA, is a proactive tool which is used to foresee the probable failures that can

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occur at a later stage. This forces one to analyse critically each and every process with the sole aim of identifying problems that may emerge. It is not done by an individual but by a group of people. Such exercises bring out a synergetic effect in the outcome. Points missed out by a few will always be brought in by others, making the analysis foolproof. As everyone involved in the process, are taken into confidence and made to take part in the analysis, their interest and commitment is guaranteed. When one's ideas form a part of the decision they will voluntarily involve and strive for success. The probability of the occurrence of the failure is the factor for consideration.

After identifying the probable failures and its occurrence, the extent of damage that the failure can cause to the system has to be estimated. This is done in the severity analysis. The group members with their background knowledge and with the help of the past data come to a consensus on a severity of each and every failure mode identified. Once this process is completed with help of a management tool called Pareto analysis, the vital few and the trivial many of these problems can be located. In this way, the more severe problems can be identified to be tackled first for maximum benefit. However, prioritisation is done only at a later stage after the Risk Priority Number is obtained. This has proved to a workable and more beneficial strategy.

In a process such as teaching, even though it will be possible to foresee many failure modes, detection of all such failures as the process is on or after the process is over, may not be easy. Hence enough care has to be taken to identify the methods of detection of failures that may occur in the process. If detection is possible, detection mechanisms have to be formulated.

In the FMEA analysis, all the three factors mentioned above, namely Severity Occurrence and Detection have to be ranked. Each of these factors has to be ranked individually in a ten point scale. To make the process easier and meaningful, some present condition may be evolved for each of the ranking between 1 to 10. Once this process is done with utmost care, the ranking will be in order and the subjectivity can be minimised. Using the ranking given for severity occurrence and detection the Risk Priority Number is calculated multiplying the ranking of the three factors. This number will have a value between 1 to 1000. This number will be helpful in identifying the crucial failure which will need immediate attention. In this manner, if a few of the vital failures are tackled then one can expect the quality of education to improve automatically. A sample risk priority number chart and FMEA chart are given in Table 1 and Table 2.

The whole exercise of finding the occurrence, severity and detection levels, calculating the risk priority number, identification of vital few failures and strategies followed for tackling those failures, needs to be documented. This will be a valid and useful information for similar processes to be carried out at a later stage and for similar processes in different institutions. Hence, this may be used as a ready reckoner and needs to be applied with care. This is because, the ranking of severity, occurrence and detection is site specific and needs updation every time it is applied.

Critical Success Factors for Quality Improvement in Education

In an industrial scene, considering a product the word quality has a definite, well-understood and well-derived meaning. Usually it is something measurable and the deficiency can be quantified. But when it comes to quality in education or teaching/learning process, the definition is a highly involved one, incorporating various parameters. It is essential that these parameters are identified and quantified.

Quality in the teaching/learning process is site time and course specific. Generalisation may not give tangible results. Here 'site' refers to the nature and background of the students. The definition should satisfy the needs of the students and employees.

In the case of technological institutions, the quality of the teaching/learning process can be defined in terms of its role in imparting the following the students:

- Knowledge on the subject area chosen, both fundamental and latest advancements
- Information retrieval, i.e. knowledge about what is available and where and capacity to take it and use
- Analytical skill
- Laboratory skill
- Inter and intra personal relationships
- Ability to manage others and get the work done

— Team spirit
— Sense of ethics
— Leadership, Management Traits

Both the classroom and outside dealings of faculty with the students should be aimed at improving any of the above. Unfortunately, none of these are reliably measurable quantities. Grades/marks are commonly used as the measure of the first four variables. It should be understood that grades need not reflect one's real capacity. Also relative weightage for each of the four variables cannot be achieved. In addition, marks have no relation to any of the other variables constituting the quality in educational process. Under these situations, a methodology to quantify the above variables is the basic need for quality model in education.

For this purpose, the following ten critical factors have been identified to indicate the quality of teaching/learning process.

i. Fearless, confident learning
ii. Usefulness/Application of what is taught
iii. Responsibility in self-learning
iv. Subject knowledge
v. Team spirit
vi. Analytical/Creative skills
vii. Co-curricular activities
viii. Personality development
ix. Ethical values and
x. Grades

Quality Function Development in Education

QFD is a technique used for transferring the customers' requirements to the process and design details. Customers have explicit and implied needs. QFD initially calls for a clear definition of who the customers are. Quality is always defined in relation to the customer needs. Here there is a paradox in identifying the product and the customer. In a general sense, the students can be considered as products and their employers as customers. A better definition would be to consider students as the customers and the teaching learning process as the product. This has the acceptance of many faculty members. The quality of animate beings is unreliable and time-dependents, meaning that a quality student passing out may not retain his quality a year later as there may be many factors surrounding him, which may affect his 'quality'. In other words, consistency will be under question. Though the quality of teaching/learning process and the quality of students are interrelated because of the reasons stated above, the definition of students as customers and the teaching/learning process as products is considered best suited under the present context. However, student customers can be treated as exogenous entity governed by the needs of the employer/society. In educational institution, after long deliberations and research it has been accepted that there are two types of customers namely, internal and external customers (Suganthi et al, 1997b). As shown in Fig. 1, the students are the main internal customers in focus in an educational institution. In addition, the faculty, the ministerial staff and the laboratory staff are also internal customers and their relationship is explained in the figure. The industries, the Government, the funding agencies, the parents and in general the society are the external customers for an educational institution. After identifying the customers, their needs have to be listed out. The survey is the commonly employed technique for getting the feedback from the customers on their needs. It will be beneficial if a few critical success factors for quality improvement are identified and the voice of the customer is obtained in terms of the importance of these critical factors.

With this information, one has to directly plunge into the solution procedures; there is a low probability that the requirements of the customers will be fulfilled. This is because the process of teaching has in itself different subprocesses such as design of the curriculum, preparation of lecture material, class room delivery, use of educational technology tools, evaluation, laboratory classes and so on. In all these different processes, more than one person is involved and hence, when the customers' requirements are passed on to them, it is likely that they will perceive it in their own style. This may ultimately result in not meeting the actual requirements. In order to avoid such problems relationship

matrix is suggested. This relationship matrix connects the requirements of the customers to technical details of the processes. The relationship of each of the technical factors involved in the process to the customers requirements are highlighted in the matrix. The relationship is expressed in terms of numerical values highlighting whether the relationship between the customer requirements and the technical factors are strong, medium or small, as shown in Fig. 2. This representation is known as the house of quality which also has a correlation matrix at the top. This correlation matrix highlights the interrelationship between the technical factors considered in the house of quality. This will be useful during implementation. From the correlation matrix, when one particular technical factor is dealt with to cater to the customer's requirements, what effect this will have on other technical factors can be studied. The implementation strategies have to be framed taking into account these interrelationship between the technical factors.

Conclusion

Both FMEA and QFD processes identified can be used as a proactive tool for preventive measures or they can also be used as reactive tools for corrective measures, while the process is ongoing. Industries world over have acknowledged these two methods for effective quality improvement in design as well as process. These techniques can be effectively used for quality improvement in educational institutions too.

For any quality improvement measures to be successful, more than the measures the method of implementation is very important. The tools FMEA and QFD will become successful in educational institutions if appropriate methodologies are followed to implement the same involving a majority of the faculty. It is suggested that preventive measures such as FMEA and QFD which ultimately improve the quality of education, indirectly take care of the accountability factor and hence are the best methods for bringing accountability in educational institutions.

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Table 1

FMEA—Risk Priority Number

Sl. No.	*Critical Quality Factors*	*S*	*O*	*D*	*RPN*
1.	Fear of subject and faculty				
2.	Not contextualising the subject matter with the realities of life				
3.	Not giving opportunities for self learning				
4.	Lack of improvement in subject knowledge				
5.	Not inculcating team spirit				
6.	Tutorials and exercises not being useful for the future of the students				
7.	Media not being used effectively				
8.	Not giving opportunities for confidence building, creativity, etc.				
9.	Not improving the personality of the student				
10.	Not getting good marks				

Table 2

Failure Mode and Effect Analysis Chart

Sl. No.	*Function*	*Potential Failure Mode*	*Severity*	*Occurrence*	*Detection*	*RPN*	*Recommended Action*
1.	Class Room Teaching of Applied Thermodynamics subject	Fear of the Subject					- Make the teaching more interesting - Wherever possible make them 'do & learn' rather than 'hear & learn' - Have a few more easy tests to make students gain confidence - Try out innovative methods such as students presentation to increase their involvement
		Fear of the Faculty					- Be friendly with students -Avoid showing off anger - Have interaction in matters other than the subject taught - Be harmless and openly declare that you are harmless - Arrange for a couple of informal gathering/outing

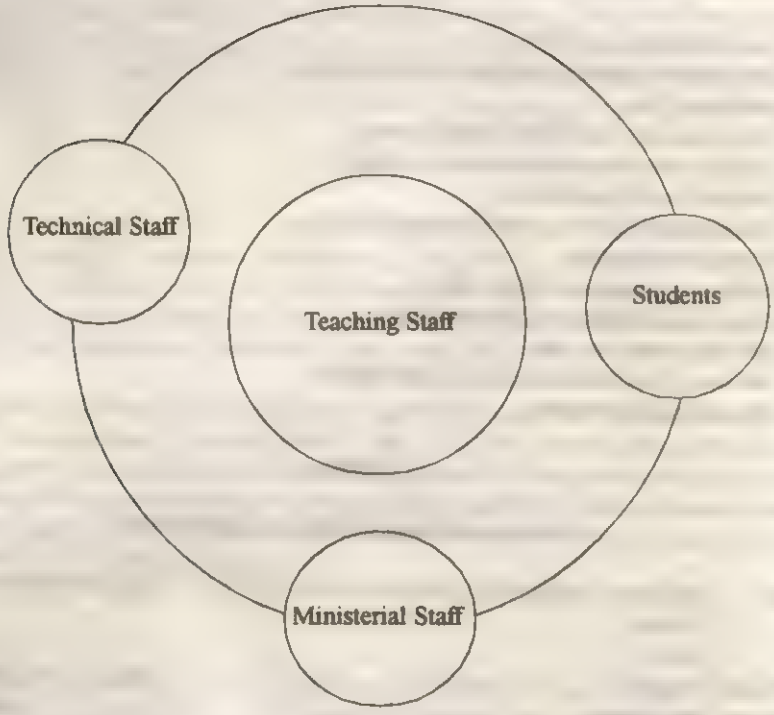
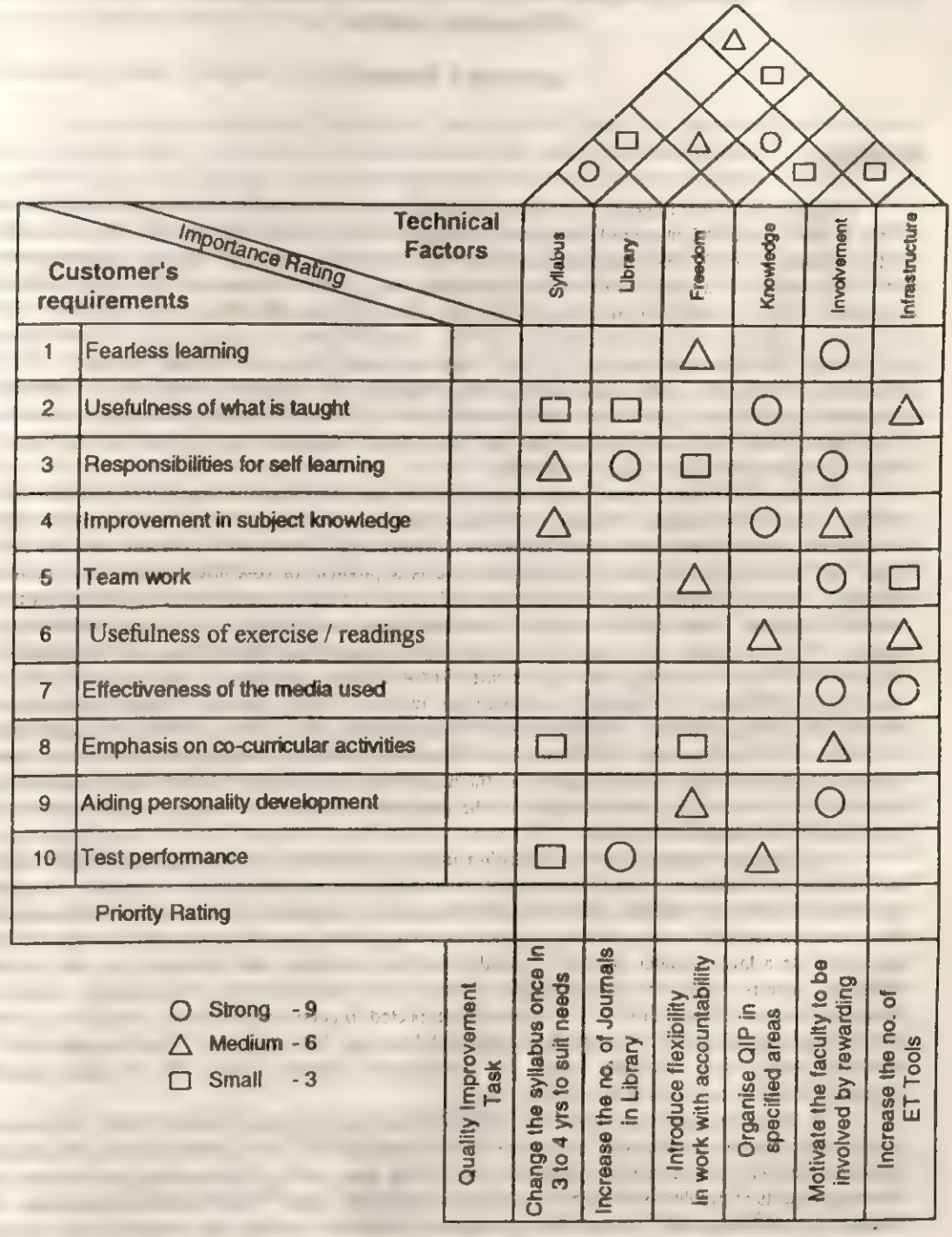


FIG. 1. INTERNAL CUSTOMERISATION MODEL



	Customer's requirements / Importance Rating	Technical Factors: Syllabus	Library	Freedom	Knowledge	Involvement	Infrastructure
1	Fearless learning			△		○	
2	Usefulness of what is taught	□	□		○		△
3	Responsibilities for self learning	△	○	□		○	
4	Improvement in subject knowledge	△			○	△	
5	Team work			△		○	□
6	Usefulness of exercise / readings				△		△
7	Effectiveness of the media used					○	○
8	Emphasis on co-curricular activities	□		□		△	
9	Aiding personality development			△		○	
10	Test performance	□	○		△		
	Priority Rating						

Quality Improvement Task	Change the syllabus once in 3 to 4 yrs to suit needs	Increase the no. of Journals in Library	Introduce flexibility in work with accountability	Organise QIP in specified areas	Motivate the faculty to be involved by rewarding	Increase the no. of ET Tools

○ Strong - 9
△ Medium - 6
□ Small - 3

FIG. 2 QFD IN EDUCATION

Some Economics about the Efficiency and Content of Education in India

Gerasimos T. Soldatos[1]

Introduction

According to the International Encyclopedia of National Systems of Education and Bordia (1995), in 1991, India had an overall literacy rate of roughly 52% while this rate was only 14% at the time of independence in 1947. Assuming that today, in 1997, 54% of the people are literate, one may assert that it took India half a century to increase the literacy rate by 40% . In view of the rapidly growing population and the wide regional disparities in this rate, This assertion implies that it may take much time and resources to advance the literacy rate to, say, 90%, Ceteris Paribus. Of curse, the issue in hand is not just literacy but functional literacy, as the 1988 launched National Literacy Mission (NLM) acknowledged. Therefore, much remains to be done towards the satisfactory eradication of illiteracy despite the success of such adult-literacy initiatives like the NLM. This is, certainly, the main reason why the universalization of primary education has received so much attention as a policy target since the early 1950s. The future of a country lies in its children.

Bordia (1995) also reports that as much as 6% of the Gross National Product is planned to be devoted to education to make sure the success of education policy. Perhaps this plan may help additionally to reduce the private costs of education, which are currently high, (Tsang, 1995). In any case, the "6% target" and the high private costs suggest that there is a problem of cost effectiveness in providing education. After all, 1989-90 figures indicate that 1/7, 6/10, and 13/10 of per capita income are needed annually to educate a student at the primary, secondary, and tertiary levels of education, respectively, (Bordia, 1995). Therefore, the success of education policy depends on the efficiency in the supply of education, and this is something that requires careful consideration. Motivated (I) by the constitutionally founded decentralization of education administration in India, and (ii) by the Chinese experience of decentralized education finance at the "very local" level since the 1980s (Tsang, 19995), this paper puts forward the view that education in India might be treated as an issue of managing local commons, (issue reviewed e.g. by Seabright, 1993). In particular, the next Section of this paper concentrates on whether the proposed level of decentralization is viable from the viewpoint of cooperation among the parties involved, since viability is a matter of efficiency.

But, universalization of primary education and cost-effectiveness in attaining it, should not be the only concern of education policy. The content of education at any level of it, is another, of equal significance concern too (Bordia, 1995). Should education be vocational, designed to develop specific skills, or creativity and the development of problem-solving abilities should be stressed? If not anything else, India has a large number of highly trained technicians, scientists, and managers, but side by side with them, there is a labor-force whose roughly 90% is in the informal sector of the economy, mainly in peasant agriculture (Timber, 1997). It is a situation expected to persist in the future, though to a lesser extent. Consequently, creativity and problem-solving abilities may help tomorrow's "disadvantaged labor" cope with living more efficiency, aiding the development process as well. For example, peasant agriculture might be turned to petty agrobusiness.

As far as this paper is concerned, creativity and problem-solving abilities imply that one is always ready to adjust productively to changes in one's employment, to the benefit also of labor-market workings. Section 3 of what follows, deals with this precise issue, taking simultaneously into account the income prospects of problem-solving abilities vis-a-vis vocational skills. We are interested specifically in whether it is intertemporally optimal for businesses to reward such abilities the same way (and perhaps more than) they reward vocational education. This would be the case, indeed, if there were in addition nonformal training on-or off-the-job, and the costs of such training (by the employer or the state,

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respectively), were counterbalanced by the benefits from the greater adaptability of problem-solving abilities to changes in employment and technology. The paper concludes with Section 4 where our two theses are elaborated further in terms of their importance to India.

Education in India : Central or Local Provision?

India, with its sociocultural peculiarities, low standard of living, and huge population, has always been a challenging puzzle for all sorts of social sciences both theoretically and practically. One thing that is certain is that, just like with any other country, education can improve conditions in India perhaps considerably. The problem is how can this poor financially country manage to educate its masses of would be pupils and students. One answer to this question is to treat education as a local rather than global commons problems. The term "global" refers to the central and state governments of India while the term "local" involves any substate jurisdiction, from a state's prefectures to villages. Education could be thus turned into a "private" matter of each community, offered the way a community views and can manage education.

Two types of common resources will emerge. Firstly, the resources extracted from community members in order to be devoted to the education process, call them 'input resources". Secondly, the resources comprised by the market reward to the outcome of this process, by the earnings of the working people that have been educated by a community, call them "output resources". Property rights for both of these resources will be exercised collectively by the members of a community taking into account that there will be rivalry in the consumption of either type of resources. The rivalry with regard to input resources lies in the fact that each community family will want the best for the education of its children with the least cost for it. The rivalry with regard to output resources consists of the fact that educated children who have entered the workforce, will want to maximize the part of their earnings remaining with them. For the sake of simplicity, I assume that educated workers prefer to stay as close to their birthplace as possible and hence, the conflict as to output resources becomes a 'battle-of-sexes" game, solved as a static game of incomplete information.

But, for such a conflict to arise, "cooperation" should have been previously achieved as the solution to a N-person prisoner's dilemma game played once, N>2, with regard to input resources. It is well-known in game theory that non cooperation remains the dominant strategy in such games as well (see e.g. Straffin, 1993). Would this be the case were government to subsidize one (or more, but not all) players(s) to make him(them) cooperate? Let the payoffs of the two person prisoner's dilemma game be T,R,P, and S, with T>R>P>S, and suppose that the subsidy to e.g player 1 is such that as to render his total payoff equal to (T+e). The payoff matrix of the game between players 1 and 2 would thus look as in Fig.1. where CO=cooperation and NC=non cooperation. The same diagram depicts also the payoff matrices of player 3 corresponding to cooperation and non cooperation on his part. It is clear that non cooperation continues to be the dominant strategy even in the presence of the government subsidy.

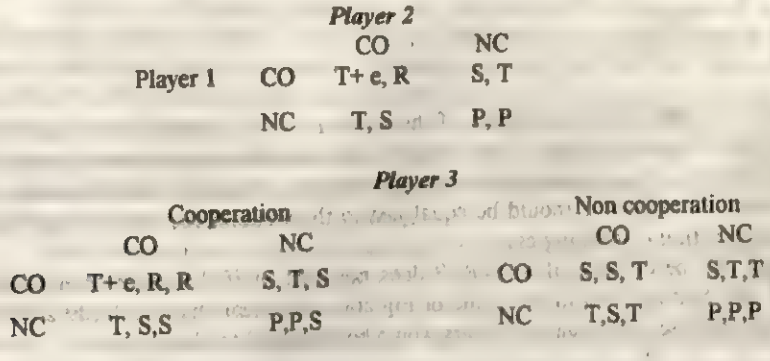

Fig. 1. Cooperation and Government Subsidy

The situation, however, would be different were one to introduce into the game "goodness" on the part, say, of player 2 besides the government subsidy to player 1. Suppose, for instance, that if 2 does not cooperate, 2 will suffer a psychic cost λ, as in Fig.2(a). Letting m be the probability with which player 1 believes that player 2 will not cooperate, the former player will cooperate if

$$Sm+(T-e)(1-m)>Pm+T(1-m)\Rightarrow m<\frac{e}{P-S+e} \qquad (1)$$

and will choose non cooperation if otherwise. That is, there is now possibility of cooperation in so far as the two-person game of fig. 2(a) is just a pragmatist and receives nothing from the government. If player 1 does not cooperate with player 2, player 3 optimal strategy will be non cooperation as well. But, note that this strategy continues to be optimal in case player 1 and 2 cooperate, since non cooperation on the part of 3 will pay him T, which exceeds the payoff R under cooperation. Knowing this, player 1 will never cooperate and so will player 2 given that S > P- λ . In the three-person prisoner's dilemma game, it appears that a government subsidy and a good person can not foster cooperation. Yet, this is a conclusion in the spirit of non cooperative theory, of a theory that does not allow the formation of coalitions. In cooperative game theory, player 1 and 2 may form a coalition and "bribe" player 3 with some part of the subsidy. This would ensure cooperation suffices the government subsidy to be high enough to compensate player 1 and 3 for cooperating. The compensation to 3 takes place indirectly through the form of bribery (and not directly by the government), reflecting the fact that the government does not know "who is who". The subsidy could have been given even to player 2, who in turn would bribe player 1 to cooperate, and both of them could eventually bribe 3 to do the same.

1 \ 2	CO	NC
CO	T+ e, R	S, T- λ
NC	T, S	P, P- λ

(a)

1 \ 2	CO	NC
CO	R,R	S, T- λ
NC	T, S	P, P- λ

(b)

Fig. 2. Cooperation, Subsidization, and "Goodness"

To determine the amount of the subsidy and of the bribe, consider the game of Fig.2(b) where there is no subsidy, but player 2 continues to be a good person. Player 1 would cooperate if

$$Sm+R(1-m)>Pm+T(1-m)\Rightarrow m<\frac{R-T}{P-S+R-T} \qquad (2)$$

provided that in view of R- T<0, the sum (S+T) has to exceed (R+P) for the right hand side of (2) to be positive. (1) is greater than (2), because

$$\frac{e}{P-S+e}>\frac{R-T}{P-S+R-T}\Rightarrow e>R-T$$

Which is true, since e>0 and R-T<0. Therefore, if the structure of the payoffs T, R,P, and S is such that S+T > R+P, cooperation between players 1 and 2 may be achieved without a government subsidy whatsoever, suffices the probability of non cooperation on the part of 2 to be smaller than that under a subsidy. In this case, a subsidy z to player 1 should be equal just to the value of the bribe, i.e. z=T-R; compensating player 1 for cooperating is meaningless.

Nevertheless, things will be different if S+T>R+P does not hold or if the government is not certain whether it holds or not. Setting e= o in the game of Fig.2(a), it is clear that a subsidy z= T-R would not induce cooperation, because such a state of affairs would be beneficial to player 1, if

$$Sm+T(1-m)>Pm+T(1-m)\Rightarrow S>P$$

whereas what we do have is P>S. Therefore, the subsidy to player 1 to induce cooperation with player 2, should be z+ h= T-R+ h, h>0. It should be twice that amount to induce cooperation with player 3 too, by bribing him with half of it, i.e. e=z+2h. This is, actually, what should happen in practice, because a government can never know the exact structure of payoff in a locality. In sum, a good government subsidy and a good man can make all the difference in adopting cooperation rather than non cooperation. The role of the subsidy has to be stressed, because from (1)

$$\frac{dm}{de} = \frac{P-S}{(P-S+e)^2} > 0$$

which means that the subsidy induces one to accept higher probabilities of non cooperation on the part of an opponent, when deciding to cooperate. The government shares the risk for such a non cooperation, with e=z+2h being the optimal risk sharing scheme.

Education in India: Vocational or Problem-Solving?

Let us come next to the content that, in my opinion, education should have in India. I believe that the choice of Gandhian basic education is in principle correct, suffices to view learning as a social process rather than as the transmission of a discrete prepackaged commodity called 'knowledge". I believe in general that the institution of education provision should be viewed not as an ad hoc rule, as Shubik (1975) might want, but as a solution to a game, a matter of active involvement, as Schotter (1981) would have remarked. Hence, creativity and the development of problem-solving abilities should be the aim at all levels of education, complemented by adult and non formal education. The question is whether such an approach to education and occupational training would benefit (i) both laborers and businesses, (ii) more than vocational training does.

The dubious efficiency of vocational education in relation to other education in developing countries (Chung, 1995; Middleton et al., 1990; Psacharopoulos, 1991), and the fact that non formal education is an efficient alternative to (the non problem-solving) general and vocational education (Arriagada and Wong, 1995; Coombs and Ahmed, 1974; Papagiannis, 1977), suggest that the proposed scheme (i) of problem-solving education as a better for general education, and (ii) of non formal rather than vocational education, would be even more efficient, the efficiency being judged from the view point of both returns to worker and costs to the state or businesses. Such a perception of things is further reinforced by the fact that those with problem-solving education are more malleable than those with vocational training. More importantly, however, problem-solving education is one cheap way to implement complementarily not only between schooling and job training but also between schooling and new technology assimilation (Carnoy, 1995; Schultz, 1989). Let us see these considerations in a more formal context.

Define a technology season as the time period T during which a given technology A is increasingly adopted by firms, which after point start one by one abandoning it. The length of time n during which a firm utilizes a specific technology is less than the time this technology could have been used. The reason is modernization; a new technology comes to replace the current one. If we divide T into sub periods indexed via t= 1,2,...., T, then $1 \leq n<t$, with the beginning of each t= 1,2,...T-n+ 1 witnessing the adoption of technology A by k firms. Thus, there is a total of k(T-n+ 1) firms adopting a technology type in each technology season, with the number of firms fluctuating from k at the beginning and at the end of a season, to kn at intermediate periods.

Next, workers have a problem-solving education rather than vocational training for a given type of technology. Because of this background of workers, a fraction b of firms in a sub period, pays the unskilled laborer's wage, but the remaining f=1-b fraction of firms pays the equivalent of vocational training. It follows that the output of a b-type firm, where $l(v)>0$ and $dl(v)/dv>0$, v= 1,2,...,n. Of course, the latter type of firms are always able to find and hire educated workers as deemed necessary. That is, it is assumed that the output of a worker hired at t= 1,.., T-1, will spring up in t+1, in which time a worker will leave the firm if it is of the type b and look for a f-type employer; Otherwise he will continue working at the same firm.

Given this scenario and assumptions, let us examine the inter temporal behavior of the fractions f and b, the dynamics across technology seasons, induced by the different output rates associated with each type of firms. Letting s= 1,2,... denote such seasons, and c(s)= {b(s), f(s)}designate the composition of firm population in terms of b- and f-type of firms in a given s, the output q of each of these types of firms should be

$$q(b; s) = pb(s)[1+l(n)] \quad (3)$$

and

$$q(f; s) = f(s) + (1-p) f(s) = (2-p) f(s) \quad (4)$$

given, of course, the assumptions made earlier. The fact that q(b; s)<b(s)[1+ l(n)], i.e. 0<P<1, owes to the attitude of workers towards firms of the b-type. Workers in an s try to flee such firms to get jobs at the f-type of firms, which means that only a fraction p of what could comprise the total ,workforce of the b-type of employers remains with them in an s.

Firms now contemplate which wage strategy will be optimal across technology seasons. The average payoff of each strategy is

$$R(b; c(s)) = qb(s)/b(s) = p[1+l(n)] \quad (5)$$

and

$$R(f; c(s)) = q(f; s)/f(s) = 2-p \quad (6)$$

so that the replicate dynamics may be written (for continuous-time changes) as follows:

$$h(s) = h(s)\frac{[q(h;s)/(s)] - \{pb(s)[1+l(n)] + (2-p)f(s)\}}{pb(s)[1+l(n)] + (2-p)f(s)} \quad (7)$$

Where h= b or f, while (*) is the time derivative. Some firms may find it optimal overtime, i.e. evolutionarily, to adopt a low wage, and other firms may find it more advantageous to offer a high wage. A distribution of firms {b*, f*} will be evolutionarily stable (ES) if any trajectory {b(s), f(s)} tends to (b*, f*) (see e.g. Vega-Redondo, 1996). Therefore, letting u= 1/n, 0<u<1, be the fraction of firms emerging between n+1 and T-n+1, our aim should be the derivation of a relationship between u and f(s) at the ES state of affairs, i.e. between u and f.

Using (7), one obtains that

$$\frac{f(s)}{f(s)} - \frac{b(s)}{b(s)} = \frac{R(f;s) - R(b;s)}{q(f;s) + q(b;s)} = w(f) \quad (8)$$

which in view of (3) and (4) becomes

$$w(f) = \frac{(2-p) - p[1+l(n)]}{pb(s)[1+l(n)] + (2-p)f(s)} \quad (9)$$

i.e. monotonically decreasing in f. If w(f)>0 for all f<1, the unique solution that follows from (8) will be f*=1and b*=0. W(f) will be positive if its numerator is positive, i.e. if 2(1-p)/p>l(n), given that its denominator is positive as well. Consequently, the solution f= 1 depends on the combinations of u and p that guarantee this positiveness for all f<1. Choosing u and p to be the smallest that ensure this, let them be $\bar{u}$ and $\bar{p}$, f*= 1 will be the unique ES strategy for any u> $\bar{u}$ and p> $\bar{p}$. The existence of such a u (and p) presupposes that $l(1/\bar{u})=1 < l(T)$, which, of course, implies that $l(1/u) < 1$ if $u > \bar{u}$.

Were, however, u and p to be such that w(f)>0 for some f<1 and w(f)<0 for the remaining f's, as in Fig 3, f*=1 would not be a ES state. We shall see immediately what the common sense of such a possibility is. Regardless the values of f and b, one may obtain the following Table:

$$w(f)\begin{matrix}\geq\\<\end{matrix}0 \text{ iff } p\begin{matrix}\leq\\>\end{matrix} \quad l = \frac{1.0}{20}\frac{0.9}{20}\frac{0.8}{20}\frac{0.7}{20}\frac{0.6}{20}\frac{0.5}{20}\frac{0.4}{20}\frac{0.3}{20}\frac{0.2}{20}\frac{0.1}{20}\frac{0.0}{20}$$
$$\frac{}{30}\frac{}{29}\frac{}{28}\frac{}{27}\frac{}{26}\frac{}{25}\frac{}{24}\frac{}{23}\frac{}{22}\frac{}{21}\frac{}{20}$$

Calculations based on these benchmark cases, indicated that given l, if w(f) takes on some positive value for a certain p under f=1, p will have to increase for w(f) to become lower than that value when f<1, (as e.g. the dotted line in fig.3 illustrates).

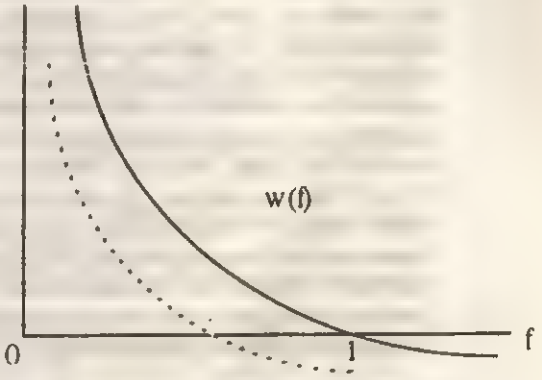

Fig. 3 Inter temporal Reward of Problem-Solving Education

Constant l means unchanged life-span of firms while a higher p means that less workers have the chance to leave low-paying firms. Thus, what our finding really says is that one reason why it is not optimal for all firms to reward education, is the difficulty with which low-paying jobs can be tuned down. If a worker happens to have such a job, he will retain it at least for one period (by assumption). Hence, configurations other than {f*= 1, b*= 0} may emerge. A more complicated scenario than ours could have postulated Solow-type workers, who refuse to accept low pay right from the start, remaining initially unemployed, as this might induce later high wage offers and hence, maximization of lifetime income (Solow, 1993). A behavior like this on the part of workers would enforce f*= 1.

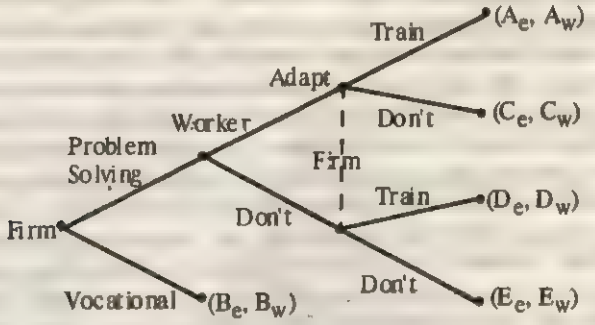

Fig.4. Job Adaptability of Problem-solving Education

The general conclusion that may be drawn from such considerations is that problem-solving education could be as rewarding as vocational training. This presumes, of course, that workers with such education, adapt it to the needs of their job. Consider the extensive form game of fig.4. The structure of the payoffs is A>B>C>D>E regardless subscript employer or worker. The dashed line represents information set, i.e. ignorance on the part of the employer as to whether the problem-solving worker is willing to adapt his education to his job. Note that if 'Hire vocational" is chosen by the firm, the whole game will be avoided by it. But, this makes a problem-solving worker believe that if the firm comes to decide to play the game, this decision will come along with the choice "Train", otherwise why should the firm play the game. From the viewpoint of payoff, the best response of this worker would be then to "Adapt". This is something that the firm understands too, and given the structure of payoff, both players will be 'looked in" on the efficient path 'Hire Problem-Solving, Adapt, Train", both players' expectations become self-fulfilling. If the costs of training are too high, they might be subsidized by the government or undertaken directly by it as non formal training off-the-job. (Recall also that the higher returns to problem-Solving education vis-a-vis vocational training come from the greater adaptability of the former to changes in job tasks and technology.)

Concluding Remarks

We shall end this paper with further remarks on its theses in connection with Indian reality. Collaboration of community members to jointly produce education on the basis of their own resources with some, of course, assistance from the authorities - ranging from that mentioned in Section 2 to aid that "opens a door" to the underprivileged -, should be viewed as a means of involving people directly in the education process beyond the efficiency argument advanced in that Section. Direct involvement has been shown to improve the quality of education (Tsang, 1995). It might, also, take care of such issues as that of the "brahmanical tradition", of the tendency of education policy to stress egalitarianism and socialism the moment the government favors a free market economy, of the emphasis of education policy on the need for decentralization when the government is subject to increased centralization, etc., (Bordia, 1995), as deemed appropriate by each community. These along with the problem-solving character of education (and non formal education) may additionally keep youngsters at school, decreasing the currently high drop-out rates (Psacharopoulos and Woodhall, 1985; Tsang, 1995).

Moreover, the connection of problem-solving character and non formal education with technological change in India, has to be underlined given that the ultimate concern is development. The term 'technological change" is not confined to its modern use, centering upon the new microelectronic technologies; it involves any improvement in the production technologies anywhere in the economy. For example, India does produce microelectronics to satisfy its needs for it, and to export to other developing economies (Agarwal, 1985). The question from the viewpoint of development is whether domestic needs will expand. Now, Spenner (1985) and the International Labor Organization (1988) have found that the introduction of new technologies requires different rather than higher skills, and that the workers who are made redundant are the unskilled ones. This is another major reason why we have chosen to align with those who maintain that education should turn away from vocational concerns and assume a role that helps people think critically (see e.g. Grubb, 1987). Problem-Solving education and non formal training does precisely that, thus aiding development especially in connection with high-technology (Carnoy,1995). This is important, since, to use Yang and Ng's (1993: 200) words, "As the potential for further evolution of the division of labor has been exhausted in the developed economies and the less developed economies enter into the takeoff stage, per capita income will converge between the two types of economics"

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Learning Organization and Organization of Educational System in the Next Millennium

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Despite the hopes conceived some twenty years ago, education has so far been no exception to the harsh rule of our times which tends to increase the unequal distribution of goods and resources in the world. This is all the more serious because education is the indispensable instrument for the propagation of science and technology which is fundamental to the success of developing countries' current endeavour. While educational programs to aid the underprivileged are being undertaken at national level, we may ask whether the international community should not at the same time exert itself more energetically to eliminate the persistent and worsening educational disparities among the nations of the world.

If in the 1970s, education was looked upon as a means to a wider range of economic and social objectives, the efficiency of the educational system will refer to a wider range of such objectives. The restatement of the problem will be : how can education use resources so that it is effective in achieving whatever goals society sets for it ? (OECD, 1970). The following remarks by two Soviet specialists may be taken to have a similar meaning, 'One of the chief difficulties in forecasting educational development (quantitative development in particular) is that the basic method in this field is one of the projections. Of course, projection from the most important past and present trends would be an ideal way of investigating the failure if we could count on a smooth, evolutionary development of education within a stable system of economic and social condition. There are, however, no firm grounds for supposing that such will be the case. This is why it is impossible to treat the forecasting of educational development as a separate problem : it is only a part, though a very important one, of the problem of social and economic forecasting for separate countries or groups of countries" (A I. Markouchevitch and A.V. Petrovsky, *Where is Education Heading*? Paris, UNESCO, 1971 document of the International Commission on the Development of Education, opinions Series, 4).

Paradigm for education will have to have a fresh look in the coming century. With the development of technology, we may expect a future shock, computers might come alive. In the book of Kayak Builder, 'Darwin among the Machines", George Dyson predicts that in the coming centuries computers may start 'thinking'. A worldwide network of computers will be doing different tasks, sharing information and helping each other could indeed come alive and take on its own consciousness. Thus, the need of development of future technology may not be the primary cry.

Education will be mainly securing of 'Information". Information technology revolution will sweep into action. Hyper text system could help in research, giving authentic and accurate results to the conscious human problems. The educational system also needs to be changed alongwith the changing times. There is a great need of including the contents for inculcating values in the curriculum. As the century is closing, as if the human values are also ending. The earth has witnessed many ways and means of winning over each other (country-wise) and the end product will be served in the next century to the human minds. In such a situation most important objective of education will be to prepare every human soul for respecting his own civilization. The value of human relations, ethics of humanity and goals of life must be taught through education. In short, a balance has to be struck between knowledge and human values.

The ancient system of education in India seems to be the ideal with the addition of technological knowedge. It is at this stage, India the sleeping giant wakes up in the 21st century. The educational system will rest on four pillars, as , mentioned by the Delors' Commission, Learning to Know, Learning to Do, Learning to Live Together and Learning to Be. The system must train the university graduates not only to learn abstract and scientific subjects but also acquire the skills to learn and absorb new knowledge useful for solving any current problem. For fulfilling this objective, it is the teacher and the faculty who should be an expert in the real sense.

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With the expert system, education will be organized. This reminds us of the expert system existing 2000 years back in the Mahabharata Era. Education will comprise software of human relations, behavioural science and organizational technology. An educated and qualified man will be a 'Knowledge Engineer'. The 'Earth's Haunt' title would be conferred to the person who could synchronize with the behavioural pattern of his human subjects with the objects of his organization. Thus 'Earth's Haunt' would be able to see people change. If the partnership between two people can be made creative, fulfilling and free of fear, then it follows that this can work for two relationships, or three or one hundred or for entire social groups, even nations. If individuals can change, the course of world can change.

But history is not idle. Democracy has to blaze a path through a mass of obstacles and snares. Technical progress, the relative abundance of goods already available in some places, and the plethora likely in the future, all hold out great promise for justice. But that progress can also be a source of inequity, alienation and new tyrannies.

Progress in information and communication technology is providing both governments and private groups with more and more extensive methods of intervening in individual's life and shaping the opinions. Meanwhile, research on the brain and the learning process indicate increasing possibilities for influencing human behaviour.

People today also have far more information available, and they possess far more knowledge than their predecessors. But this knowledge often obscures a person's perception and understanding of reality rather than shedding light on it. The real reins of the political power which most constitutions confer on the people, with sincerity or at any rate with great pomp and circumstances, are slipping more and more out of their grasp. Their participation in the decision-making process is beset with obstacles.

Progress in management sciences and cybernetics, as well as in education and information, radically changes fundamental aspects of democratic practice and leads people to claim a greater say in public life. This means that democratic education must become a preparation for the real exercise of democracy. The main aim of education is the growth and development of quality of human life. Societies in our time have the experience and the existing or potential resources required (but we do not underestimate the difficulties involved) to help fulfill humans in every possible way as agent of development and change, promoter of democracy, citizen of the world.

Two questions arise when we turn to analyze the ultimate aim of an educational system : the first is, what is their real substance, beyond the language in which they are formulated, and the second, who defined them ? They must necessarily be both specific and general. To the extent that they are dictated by history, traditions and customs, by social patterns, economic and political systems and circumstances, they must arise out of specific situations. But, equally, they have a general character. For in our time, education is an enterprise of universal dimensions, huge and far-reaching, implicit in which are aims which have universal application. And these aims may be translated into the same explicit terms as certain of the great ideals typical of making today.

We see these universally valid aims in scientific humanism in the development of reason in creativity, in the spirit of social responsibility, in the search for balance among the various intellectual, ethical, emotional and physical components of personality and in a positive perception of mankind's historic fate. The choice of aims is not, however, the only problem. It is important that they be based on a broad consensus. Without disputing the part which political choices and pedagogic, scientific and technological achievements play in defining aims for education, it remains a task which cannot be left entirely to politicians' discretionary desires or to scientists' knowledge. For men and women of these professions are not only ones from whom a joining contribution is required, there must be active participation by those concerned; the learner, parents and communities.

The role which education is called upon to play depends on this kind of choice and consensus, which may turn it towards the past or the future, towards paralysis or development, towards a search for false security by resisting change or towards the discovery of true security by taking part in progress. Execution of educational strategies depends mainly on identifying, stimulating and experimenting with innovations, the administration and management of educational systems and the search for means of financing educationists. No overall innovative strategy can result from the mere accumulation of more or less spontaneous partial innovations 'in the field'. Drawing up a new strategy necessarily presupposes an overall diagnosis of the state of education.

It is necessary to have as complete a picture as possible of the components and mechanics of the educational systems and its relations to other systems connected to it -- the economy, the transport system, communications, cultural activities, etc. From such a diagnosis, we should be able to identify the main areas of imbalance, both internal (low yield, prohibitive costs etc.) and external (inadequate links to the labour market, social needs, individual hopes, etc) and to discern existing constrains, whether human, political or financial. Thus we may isolate variables and distinguish those which we are in a position to change and those which remain impossible or difficult to modify.